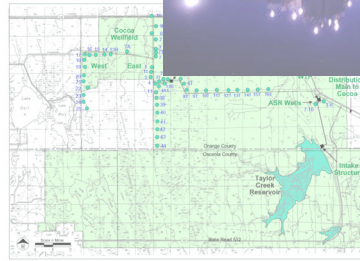


CITY OF COCOA WATER SUPPLY FACILITIES WORK PLAN



**City of Cocoa
Brevard County, Florida**



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Serving the Community

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V. INTRODUCTION

In anticipation of the rapid population growth, increasing water demands facing the state, and the potential threats to both the economy and natural resources, the Legislature amended the Florida Water Resources Act (Chapter 373, F.S.) in 1997. The amendments required the five water management districts to initiate regional water supply planning in all areas of the state where reasonable anticipated sources of water were deemed inadequate to meet year 2020 projected demands.

The water supply plans include a list of water source options, which will meet anticipated demands while sustaining water resources and related natural systems. As of August 2001, all the required regional water supply plans were completed.

The 2002 Legislature expanded the local government comprehensive plan requirements to strengthen coordination of water supply planning and local land use planning. One of the most significant new requirements is a 10-year Water Supply Facilities Work Plan. The work plan must:

1. Project the local government's needs for at least a 10-year period;
2. Identify and prioritize the water supply facilities and source(s) of water that will be needed to meet those needs; and
3. Include in the local government's Five-Year Schedule of Capital Improvements the capital improvements identified as needed for the first five years, including financially feasible revenue sources. A current five-year schedule must always be maintained.

The City of Cocoa has agreed to participate in a pilot project to complete its work plan early. The City has been working closely with the Department of Community Affairs (DCA) and the St. Johns River Water Management District (SJRWMD) to prepare the work plan. A contract with DCA required a total of three (3) task items. The first task required the City to summarize the existing conditions of the City's facilities (*VI. Water Supply and Facilities Information*). The second task required analysis of system capacity, surpluses and deficiencies, facility needs, and identification of a sufficient supply of water to meet projected needs (*VII. Supply and Demand Analysis and Projections*). The third task required revisions to Comprehensive Plan elements to integrate the Work Plan into the Comprehensive Plan (*IX. Revised Comprehensive Plan Elements*).

VI. WATER SUPPLY AND FACILITIES INFORMATION

A. Geographic Area

The City of Cocoa water system is a regional system that is permitted to provide water to all of Townships 23, 24, 25, and 26 in Brevard County. A map of the system's service area is included in Map "A". The area presently served is generally bound to the south by the Pineda Causeway (County Road 404), to the west by the Brevard County and Orange/Osceola County boundary line, to the north by Kings Highway, and to the east by the Atlantic Ocean. The total area served is approximately 268 square miles.

More specifically, Cocoa provides water to the following municipalities, communities, jurisdictions, and major organizations:

- Canaveral Groves;
- Cape Canaveral;
- Cape Canaveral Air Force Station;
- Cocoa;
- Cocoa Beach;
- Kennedy Space Center;
- Merritt Island;
- Patrick Air Force Base;
- Port Canaveral;
- Port St. John;
- Rockledge;
- Sharpes;
- Suntree;
- Viera;
- Unincorporated Areas; and
- Wholesale water to the City Titusville.

In all, the City's system serves about 68,000 customers with a population of approximately 188,000.

B. Water Sources and Collection Facilities

Cocoa's drinking water sources include the *Floridan Aquifer*, *Intermediate Aquifer*, *Taylor Creek Reservoir*, and *Aquifer Storage and Recovery (ASR) wells*. All of these facilities are located in east Orange County.

Cocoa Well Field

Raw water comes from forty eight (48) wells in the Cocoa well field: thirty-four (34) wells drilled 400 to 600 feet into the Floridan Aquifer and fourteen (14) wells drilled into the Intermediate Aquifer. Due to concerns about salt-water intrusion, the SJRMWD limited any further expansion of the well field. The well field can produce

a maximum of 60 million gallons per day (mgd) with all wells pumping simultaneously. Safe well field management practices advise an operating rate that allows for well rotation to alleviate stress on the aquifer and provide down time for well repair and maintenance. ***Such management practices allow Cocoa to operate the well field safely at 31 mgd for average flows and 48 mgd for maximum flows. The actual average annual flow from the Cocoa well field in 2002 was 24.85 mgd.***

Cocoa Well Field – Floridan Aquifer

The Floridan Aquifer is one of the most productive sources of ground water in the United States. Public-supply systems that draw water from the Aquifer include Tallahassee, Jacksonville, Gainesville, Orlando, Daytona Beach, St. Petersburg, and Cocoa. In Brevard County, the Aquifer generally contains brackish water. For this reason, Cocoa located its well field in east Orange County.

The Floridan aquifer is overlain by a low permeability aquitard called the Hawthorn Formation. This unit is an extensive and effective confining unit in the eastern portions of Orange County. The ground water withdrawn from the Floridan aquifer by this well field comes from the upper zone of relatively permeable limestone, known as the Upper Floridan aquifer. The most productive zone is typically found between depths of 250 to 600 feet below land surface in this area with ***yields ranging from about 200 gpm (0.29 mgd) to over 2,400 gpm (3.5mgd).***

Information regarding the City's Floridan Aquifer water sources, including the specifications of all wells, is listed in *Table VI-1* on page 6. Historical flow data is listed in *Table VI-5* on page 9. The location of all wells is shown in Map "B".

Table VI-1 - Existing City of Cocoa Floridan Aquifer Supply Wells

Cocoa Pump ID*	District Well ID	Casing Diameter	Casing Depth	Total Depth	Year Drilled	Flow (gpm)
1	A	20	316	374	1956	486
2	B	20	271	616 (450)	1957	415
3	C	12	266	496 (450)	1957	415
4	G	12	251	524	1957	1250
4A1	H	18	266	527	1956	1250
5	J	12	251	409	1957	347
7	K	12	285	399	1957	417
8R	M	12	275	400	2000	415
9	N	12	230	385	1957	347
10	O	12	229	350	1957	208
11	P	12	323	580	1958	694
12A	Q	12	275	600	1959	1250
12B	R	12	260	519	1961	1250
7A	S	12	237	710	1962	833
13R	T	16	270	400	1992	486
14	U	12	252	761	1962	2153
15	V	12	262	702	1964	2292
16	W	12	255	600	1964	2292
17	X	12	252	600	1964	2292
18	Y	16	254	500	1981	2430
19	Z	16	254	600	1981	2430
38	AL	12	320	426	1995	365
39	AM	12	310	422	1995	365
40	AN	12	310	440	1995	350
41	AO	12	320	420	1995	365
42	AP	12	320	420	1995	330
43	AQ	12	320	420	1995	360
44	AR	12	296	418 (375)	1995	405
20	AS	16	290	602	1991	2430
21	AT	16	294	603	1991	2430
22	AU	16	293	602	1991	2430
23	AV	16	300	600	9/95	2430
24	AW	16	310	600	11/95	2430
25	AX	16	300	600	10/95	2430

Note: The hours of operation vary based on demand and source availability. All wells are used for public supply and fire protection.

* A Cocoa Pump ID containing the letter: "R" indicates a replacement well; and "A" and "B" do not have any significance.

Cocoa Well Field – Intermediate Aquifer

The Intermediate Aquifer is discontinuous throughout the Cocoa well field and where present is typically found at a depth between 50 to 150 feet below land surface, between the surficial aquifer and the Floridan aquifer. The production zone of this aquifer in this well field is a shell layer of variable thickness and permeability resulting in well *yields ranging from 27 gallons per minute (gpm) to 740 gpm.*

Information regarding the City's Intermediate Aquifer water sources, including the specifications of all wells, is listed in *Table VI-2* on page 7. Historical flow data is listed in *Table VI-5* on page 9. The location of all wells is shown in Map "B".

Table VI-2 - Existing City of Cocoa Intermediate Aquifer Supply Wells

Cocoa Pump ID	District Well ID	Casing Diameter	Casing Depth	Total Depth	Year Drilled	Flow (gpm)
2T	D	10	75	150	1986	208
1T	E	12	85	200	1969	200
3T	F	10	75	140	1986	139
4T	I	10	75	120	1986	0
7T1	L	12	75	115	1978	694
5T	AA	10	95	165	1994	70
6T	AB	10	75	155	1995	156
8T	AC	10	75	150	1994	740
9T	AD	10	75	150	1995	35
10T	AE	10	80	150	1995	205
11T	AF	10	70	140	1995	100
12T	AG	10	50	125	1995	135
13T	AH	10	70	140	1995	70
14T	AI	10	60	120	1995	90
15T	AJ	10	60	120	1995	30
16T	AK	10	60	120	1994	27

Note: The hours of operation vary based on demand and source availability. All wells are used for public supply and fire protection.

Taylor Creek Reservoir – Surface Water

Taylor Creek is a tributary to the St. Johns River and is about 11 miles west of Cocoa and 3 miles from the Claude H. Dyal Water Treatment Plant. A reservoir was created to store water and a retaining structure is maintained by the SJRWMD in accordance with an operating schedule approved by the US Corp of Engineers (COE). Minimum flows and levels were recently adopted for the reservoir downstream of discharge structure, known as S-164. The Taylor Creek watershed annual runoff is about 36 mgd and the reservoir has a capacity to store 5 billion gallons of freshwater. ***The District permits Cocoa to withdraw an average of 9 mgd and a maximum of 19 mgd. The actual average annual flow from the reservoir in 2002 was 2.92 mgd.*** Surface water from the reservoir is blended with the ground water before distribution.

Information regarding the City's surface water sources, including the specifications of all pumps, is listed in *Table VI-3* on page 7. Historical flow data is listed in *Table VI-5* on page 9. The location of all pumps is shown in Map "B".

Table VI-3 - Existing City of Cocoa Surface Water Supply Pumps

Pump #	Pump Capacity (gpm)	Acreage Of Surface Water Body	Name Of Source
1	4167	2750	Taylor Creek Reservoir
2	4167	2750	Taylor Creek Reservoir
3	4167	2750	Taylor Creek Reservoir

Note: The hours of operation vary based on demand and source availability. All wells are used for public supply and fire protection.

Aquifer Storage and Recovery (ASR) Wells

Cocoa's ASR system consists of ten (10) wells, a control valve station, a backflow preventer, and a computer. The ASR wells are located around the perimeter of the Claude H. Dyal Water Treatment Plant. Treated water can be stored 300 feet underground in the Floridan Aquifer during periods of low demand or recovered during periods of high demand. Water from the ASR system can be pumped to the head of the plant or to the ground storage tanks. ***The capacity of the existing ASR system is 8 mgd. The ASR wells have a total storage capacity of 1 to 2 billion gallons; with one billion gallons currently stored.***

Information regarding the City's ASR system, including the specifications of all wells, is listed in *Table VI-4* on page 8. Historical flow data is listed in *Table VI-5* on page 9. All ten (10) ASR wells are currently located within the confines of the Dyal Plant property, which are shown in Map "B".

Table VI-4 - Existing City of Cocoa Finished Water ASR Wells

Cocoa Pump ID	District Well ID	Casing Diameter	Casing Depth	Total Depth	Year Drilled	Flow (gpm)
R-1	AY	16	315	356	1984	694
R-2	AZ	16	280	370	1989	694
R-3	BA	16	300	370	1989	694
R-4	BB	16	300	370	1989	694
R-5	BC	16	300	370	1989	694
R-6	BD	16	300	370	1989	694
R-7		16	300	370	1998	694
R-8		16	300	370	1998	694
R-9		16	300	370	1998	694
R-10		16	300	370	1998	694

Note: The hours of operation vary based on demand and source availability. All wells are used for public supply and fire protection.

Table VI-5 - City of Cocoa Historical Water Supply Sources and Flows

Year	Annual Average Daily Flow (mgd)						Max. Actual Daily Flow
	Actual Flow	Floridan Aquifer Supply	Intermediate Aquifer Supply	Finished Water ASR Supply	Taylor Creek Reservoir Supply*	Surface Water Treatment Capacity*	
1990	22.46	21.86	0.70	-0.10	N/A	N/A	31.92
1991	21.61	21.50	0.21	-0.10	N/A	N/A	29.31
1992	23.12	22.26	0.96	-0.10	N/A	N/A	35.61
1993	24.11	23.21	1.00	-0.10	N/A	N/A	36.08
1994	22.60	21.42	1.28	-0.10	N/A	N/A	32.69
1995	24.28	22.98	1.40	-0.10	N/A	N/A	34.07
1996	25.36	23.92	1.54	-0.10	N/A	N/A	38.00
1997	23.70	20.97	2.73	0.00	N/A	N/A	31.08
1998	25.24	22.38	2.86	0.00	N/A	N/A	41.24
1999	25.18	22.33	2.85	0.00	N/A	N/A	36.39
2000	26.96	23.23	2.50	0.02	1.21	12.0	38.08
2001	26.06	22.00	2.97	-0.41	1.50	12.0	39.40
2002	27.13	21.85	3.00	-0.64	2.92	12.0	40.83

* N/A means there was no surface water supply or treatment available.

C. Treatment Facilities

Cocoa's drinking water treatment facilities include the Wewahootee Water Treatment Plant and the Claude H. Dyal Water Treatment Plant. All of these facilities are located in east Orange County, which are shown in Map "B".

Wewahootee Water Treatment Plant

The Wewahootee Water Treatment Plant includes 160 acres. Ground water is pumped from the Cocoa well field to Wewahootee, where it is aerated to remove hydrogen sulfide, and then chlorinated. Water is then pumped through approximately nine miles of parallel 36-inch and 42-inch diameter transmission pipelines to the Dyal Plant.

Claude H. Dyal Water Treatment Plant

The Claude H. Dyal Water Treatment Plant includes 62 acres and is located on the south side of State Road 520 about five miles west of the St. Johns River. The plant has a rated capacity of 48 mgd.

Cocoa completed an expansion of the Dyal Plant in November 1999 in order to provide water intake and treatment facilities to collect and treat surface water from the Taylor Creek Reservoir. The expansion was necessary because surface water requires a different treatment method than ground water. The intake and treatment facilities are currently rated at 12 mgd and are upgradeable to 24 mgd.

The entire system delivers approximately 10 billion gallons of water each year with peak flows in excess of 40 mgd during the summer. Average daily flow or demand has increased from 22.46 mgd in 1990 to 27.13 mgd in 2002.

Historical treatment plant flow and water use data by major user are listed in *Table VI-6* on page 10.

Table VI-6 - City of Cocoa Historical Water Use and Flows (by Major User Group)

Year	Population	Customer Accounts	Annual Average Daily Plant Flow MGD	US Gov. Contract Flow MGD*	Titusville Flow MGD**	Port Canaveral Flow MGD	Net Commercial and Residential Flow MGD***	Maximum Daily Plant Flow MGD
1990	134,124	48,000	22.46	3.45	N/A	0.42	18.59	31.92
1991	135,521	48,500	21.61	3.34	N/A	0.42	17.85	29.31
1992	141,110	50,500	23.12	3.98	N/A	0.48	18.66	35.61
1993	145,301	52,000	24.11	3.77	N/A	0.44	19.90	36.08
1994	149,492	53,500	22.60	3.29	N/A	0.40	18.91	32.69
1995	152,287	54,500	24.28	3.62	0.26	0.50	19.90	34.07
1996	155,081	55,500	25.36	4.23	0.70	0.58	19.86	38.00
1997	159,272	57,000	23.70	3.40	0.96	0.57	18.77	31.08
1998	165,978	59,400	25.24	3.33	1.04	0.48	20.39	41.24
1999	169,890	60,800	25.18	3.13	1.04	0.57	20.44	36.39
2000	173,663	62,150	26.96	3.31	1.00	0.67	21.98	38.08
2001	182,537	65,326	26.06	2.70	0.77	0.60	21.99	39.40
2002	188,332	67,400	27.13	2.86	0.64	0.63	22.99	40.83

* US Gov Contract Flow includes the Kennedy Space Center and Patrick Air Force Base.

** N/A means there was no connection to the City of Titusville.

*** Net Commercial and Residential Flow includes Canaveral Groves, Cape Canaveral, Cocoa, Cocoa Beach, Merritt Island, Port St. John, Rockledge, Sharpes, Suntree, Viera, and Unincorporated Areas.

D. Major Distribution and Transmission Facilities

Treated water is delivered throughout most of central Brevard County through about 1,175 miles of pipe. The distribution system, including storage and pumping facilities, is located throughout Cocoa's water service area in central Brevard County. An inventory of all pipe sizes by area is listed in *Table VI-7* on page 11.

Table VI-7 - City of Cocoa Water Mains Inventory By Area as of Nov. 1, 2002

Area*	Pipe Sizes									
	54"-18"	16"	12"	10"	8"	6"	4"	3"	2"	Total
Cocoa Incorporated	9.24	0.00	6.53	3.36	12.25	43.58	12.96	1.75	4.51	94.19
Cocoa** Unincorporated	30.60	0.00	24.28	0.58	25.20	81.48	33.13	0.32	8.88	204.49
Rockledge Incorporated	2.89	2.99	6.13	4.06	25.64	58.27	11.35	0.00	3.67	114.99
Rockledge Unincorporated	0.00	3.23	0.32	0.42	3.11	8.37	1.45	0.00	0.09	16.99
Cocoa Beach Incorporated	11.26	0.00	3.47	3.99	9.98	40.43	22.84	0.21	1.73	93.91
Cocoa Beach Unincorporated	1.94	0.00	0.03	0.00	1.05	6.07	3.60	0.00	0.03	12.72
Cape Can. Incorporated	3.66	0.76	0.42	0.82	9.58	18.47	9.80	0.03	0.54	44.08
Cape Can. Unincorporated	8.15	0.16	3.52	0.49	7.31	5.84	0.66	0.00	0.44	26.57
Merritt Island	21.36	3.63	14.17	2.56	65.49	125.20	61.41	0.00	5.43	301.24
Suntree/ Viera	7.01	8.93	16.28	9.48	48.91	50.96	16.08	0.00	2.80	160.46
Port St. John	1.73	1.78	7.99	0.00	27.52	55.38	11.45	0.00	0.00	105.85
Totals	97.83	21.48	83.13	25.76	236.03	494.06	186.75	2.32	28.13	1175.49

Note: The hours of operation vary based on demand and source availability. All wells are used for public supply and fire protection.

* No City of Cocoa owned water mains are located on Cape Canaveral Air Force Station, Kennedy Space Center, Patrick Air Force Base, Port Canaveral, or City of Titusville.

** Canaveral Groves, Sharpes are also included within Cocoa Unincorporated.

E. Storage Facilities

Potable water is stored in the following four locations, which are shown in Map "C":

- A 5-million-gallon steel ground storage tank located at the Utilities Complex in Tate Industrial Park in Cocoa.
- Two concrete ground storage tanks providing 4 million gallons of storage are located next to State Road 520 at the Banana River. The pumping station at this site is used to boost pressure to the beaches and to maintain chlorine residuals.
- A 2-million-gallon ground storage tank and pumping station is in Viera at Interstate 95 and Wickham Road. Ground storage tanks are used to meet peak demands during the day.
- A 1.5-million-gallon steel elevated tank located on U. S. Highway 1 north of State Road 520. The elevated tank is used to maintain a constant pressure in the distribution system.

F. Permit Conditions and Duration

On June 29, 1957, Chapter 57-1232, the Laws of Florida, authorized the City of Cocoa to extend its water mains and water distribution system beyond its limits and sell water through said system to private individuals or other uses for profit. A copy of the law is attached as Exhibit "A".

The City holds a Consumptive Use Permit (CUP) from the SJRWMD for its potable water supply system. CUP No. 2-095-0005UGMR was issued initially on February 20, 1979, and was renewed on December 11, 1990. This permit authorizes the City to withdraw ground water from the Cocoa well field, and inject and withdraw water from ASR wells in east Orange County. Permit conditions entitle the City to withdraw water at a maximum daily rate of forty-eight (48) million gallons and a maximum annual rate of 11.32 billion gallons from a series of wells in the Floridan and intermediate aquifers. A copy of this permit, including conditions, is attached as Exhibit “B”. The permit expiration date was originally December 11, 1997, but because an application for renewal of the permit was received by SJRWMD on December 3, 1997, the permit did not expire. According to section 40C-1.610 of the Florida Administrative Code, the permit will not expire until final agency action, or if the permit is denied or the terms limited, until the last day for seeking review of the SJRWMD order or a later date fixed by order of the reviewing court.

The City also holds a SJRWMD CUP for the withdrawal of water from the Taylor Creek Reservoir. CUP No. 2-097-0024NG was issued on July 13, 1993 and will expire on February 19, 2004. The permit authorizes the City to withdraw surface water at an annual average rate of nine (9) million gallons and a maximum daily rate of nineteen (19) million gallons. A copy of this permit, including conditions, is attached as Exhibit “C”.

CUP application #50245, which combined both existing CUPs into one permit, was submitted to the SJRWMD for review and approval on December 3, 1997. The application requested no change in ground water withdrawals from the Floridan aquifer and the intermediate aquifer systems, and an increase in surface water withdrawals from Taylor Creek Reservoir for public supply. After several time extension waiver requests, the City is expecting the SJRWMD Governing Board to consider the application in summer/fall 2003.

G. Reclaimed Water System

There are ten (10) reclaimed water treatment systems other than Cocoa’s, which receive wastewater flows within the Cocoa water service area. Three are municipal systems providing reclaimed water exclusively within their corporate limits (Cities of Cape Canaveral, Cocoa Beach, and Rockledge). Four are county systems providing reclaimed water to the general areas of Merritt Island, Port St. John, Sharpes, and South Central Brevard County. The last three systems are situated on U.S. Government property (Cape Canaveral Air Force Station, Kennedy Space Center, and KSC Industrial Complex). 2002 facility data, including wastewater treatment and reuse flows, are listed in *Table VI-8* on page 13.

Cocoa operates an advanced water reclamation facility rated at a capacity of 4.5 mgd, which was developed as a public access system. The system includes more than 45 miles of pipe from 2 inches to 18 inches in diameter and more than 1,000 accounts. The reclaimed water distribution system also includes two ground storage tanks with a capacity of two million gallons each, a 5-mgd capacity pump station, and a 500,000-gallon capacity elevated storage tank. Cocoa’s Reclaimed Water Distribution System is shown in Map “D”.

Table VI-8 – Wastewater and Reuse Systems Within the Cocoa Water Service Area (by Reuse Type and Sub-Type) – Source: FDEP 2001 Reuse Inventory

Reuse System Name	Wastewater Treatment Capacity (mgd)	Treated Wastewater Flow (mgd)	Reuse Type*	Reuse Sub-Type**	Part of Chapter 62-610, FAC***	Reuse Facility Capacity (mgd)	Reuse Avg. Annual Flow (mgd)	Area (acres)
BCUD/(Sykes Creek) Merritt Island	6.00	3.52	AI	EC	III	1.00	0.04	1.50
			PAA&LI	RI	III	1.00	0.88	1.30
			PAA&LI	GCI	III	1.00	0.19	120
			IND	ATP	VII	0.06	0.06	
			AI	OC	II	1.00	0.04	4
BCUD/Port St. John	0.50	0.19	PAA&LI	OPAA	III	0.07	0.01	4
			GWR&IPR	RIB	IV	0.28	0.18	2
BCUD/South Central Regional	3.00	1.80	AI	OC	II	0.57	0.18	650
			WL	NA	NA	2.50	0.49	163
			GWR&IPR	RIB	IV	0.55	0.03	82
			PAA&LI	GCI	III	0.72	0.20	242
			PAA&LI	RI	III	0.53	0.46	158
			PAA&LI	OPAA	III	0.63	0.46	105
Cape Canaveral, AFS Main	0.80	0.35	GWR&IPR	RIB	IV	0.80	0.35	5
Cape Canaveral, WWTP, City of	1.80	0.75	IND	ATP	VII	0.06	0.06	
			PAA&LI	OPAA	III	0.70	0.46	45
Cocoa (Jerry Sellers)	4.50	2.14	PAA&LI	RI	III	1.80	1.79	315
			PAA&LI	OPAA	III	0.25	0.24	55
			PAA&LI	GCI	III	0.04	0.04	14
			IND	ATP	VII	0.03	0.03	
Cocoa Beach	6.00	3.52	PAA&LI	RI	III	3.00	2.80	1013
			PAA&LI	GCI	III	3.00	0.41	187
Kennedy Space Center #4	0.20	0.07	GWR&IPR	RIB	IV	0.20	0.07	73
Kennedy Space Center/Industrial #1	0.38	0.08	AI	OC	II	0.38	0.08	82
Rockledge	4.50	1.66	PAA&LI	OPAA	III	0.44	0.22	
			PAA&LI	GCI	III	0.39	0.21	
			PAA&LI	RI	III	0.50	0.50	
Sun Lake Estates	0.14	0.06	GWR&IPR	RIB	IV	0.21	0.06	7
Total	27.82	14.14				21.71	10.54	

***REUSE TYPES**

PAA&LI Public Access Areas & Landscape Irrigation
 AI Agricultural Irrigation
 GWR&IPR Ground Water Recharge & Indirect
 Potable Reuse
 IND Industrial
 TF Toilet Flushing
 FP Fire Protection
 WL Wetlands
 OTH Other

****REUSE SUB-TYPES**

GCI Golf Course Irrigation
 RI Residential Irrigation
 OPAA Other Public Access Areas
 EC Edible Crops

OC Other Crops
 RIB Rapid Infiltration Basins
 AF Absorption Fields
 SWA Surface Water Augmentation
 INJ Injection
 ATP At Treatment Plant
 AOF At Other Facilities

***** PARTS OF CHAPTER 62-610, F.A.C.**

II Slow-rate Land Application Systems; Restricted Public Access
 III Slow-rate Land Application Systems; Public Access Areas, Residential Irrigation, and Edible Crops
 IV Rapid-rate Land Application Systems (Rapid Infiltration Basins and Absorption Fields)
 V Ground Water Recharge and Indirect Potable Reuse
 VII Industrial Uses of Reclaimed Water

VII. SUPPLY AND DEMAND ANALYSIS AND PROJECTIONS

A. Demand Analysis and Projections

Cocoa's utility system has experienced steady growth. Since 1990, more than 19,000 accounts have been added to the system and the system now provides wholesale water to the City of Titusville. Cocoa's system growth and water use from 1990 through 2002 are shown in *Table VI-6* on page 10.

Cocoa staff worked closely with SJRWMD staff in the Water Supply Management and Water Use Regulation offices to determine the future water needs. The flow projections were completed in 1998 as part of the Water 2020 water supply planning process and are shown in *Table VII-1* on page 17 and *Figure VII-1* on page 18. Cocoa Staff has also mapped current and projected areas that will have water service in 2023 (Map "E").

System flow projections are based on a review of historical records and estimations of future needs. Each major factor is discussed in detail below:

Population Growth

Population growth is projected using Traffic Analysis Zone (TAZ) data supplied by SJRWMD staff in the Water Supply Management Office. Cocoa's service area was broken down into smaller areas that correspond to TAZ area boundaries.

A population adjustment was made for the South Mainland Area. The Viera Company has an approved Development of Regional Impact (DRI) for residential and commercial development in this area. The DRI projects a greater population in this area than was anticipated in the TAZ analysis. The net difference in population of 19,060 was added to Cocoa's 2020 population projection. A straight-line population growth rate was then assumed from 1990 to 2020. The projections are shown in *Table VII-2* on page 19.

Customer Accounts

The estimated growth in customer accounts is based on the population served in 1990 divided by the number of accounts in 1990. The result is 2.79 persons per account. The projected number of customer accounts from 2000 to 2020 was calculated by dividing the TAZ population projections by 2.79.

Per Capita Flow

Cocoa's water billing database does not allow differentiation of residential (household) uses and commercial uses. This level of analysis is not possible because only single-family residential units are coded as residential. Multi-family accounts

are coded as commercial accounts. For the purposes of historical uses and flow projections, per capita use is based on combined household and commercial uses less wholesale water sales to Titusville, Port Canaveral, and the U. S. Government facilities at Kennedy Space Center, Cape Canaveral Air Force Station, and Patrick Air Force Base.

The logic for this analysis is that increasing population requires additional household use and additional retail and commercial support uses. An analysis of per capita residential/ commercial (r/c) flows for the period from 1990 to 1999 is based on actual flows and estimated population. The combined r/c flow rates range from 118 gpd to 139 gpd with a 10-year average of 129.1 gpd per person.

Based on historical annual rainfall totals, the City has determined that 1990 represented a dry year (1:10 year drought). SJRWMD Water Supply Management staff has determined that 1995 represented an average rainfall year (*SJRWMD's Water Supply Assessment — 1998*). Observed per capita flows for these years (139 gpd dry, 130-gpd average) were used to project future r/c flow needs for dry and average rainfall years. Obviously, rainfall distribution throughout the year plays a major part in overall water use and greater than 1:10 year drought occurrences will result in annual water demands greater than projected dry year demands. Abnormal rainfall distributions can result in higher than expected peak use, even during years that receive a normal annual amount of rainfall.

Projected Wholesale Water Use

Cocoa's largest wholesale water customer is the U.S. Government. The U.S. Government contract with Cocoa is for a combined annual average daily flow (aadf) of 5 mgd at three installations: Kennedy Space Center, Cape Canaveral Air Force Station, and Patrick Air Force Base. The historical flows range from 3.13 mgd to 4.23 mgd. The average of this range, 3.7 mgd, was chosen to represent the flow during an average rainfall year. The maximum contract amount of 5 mgd was chosen to represent U. S. Government flow during a dry year.

Cocoa also has an interlocal agreement for a system interconnect with the City of Titusville, which has been recently amended, to supply up to 1.5 mgd aadf. Through this agreement, Titusville is also committed to purchase at least 0.5 mgd during each monthly billing period. Current flows average slightly over 0.5 mgd. Therefore, 0.5 mgd was chosen to represent flows during an average rainfall year and the maximum contract amount of 1.5 mgd was used for future dry year flows.

The *District Water Supply Plan (SJRWMD 2000)* has identified a 2.45 mgd average daily deficit in 2020 for the Titusville water system. The most cost-effective water supply option identified for Titusville in the *District Water Supply Plan (SJRWMD 2000)* included the continued use of the Cocoa interconnect. The Cocoa-Titusville interconnect agreement expires in 2005 unless it is extended at Titusville's option.

Adjustment to this flow may be required depending on Titusville's choice of water supply options in 2005.

Another major wholesale water customer is Port Canaveral. Large quantities of water are supplied through the Port to cruise ships. Significant growth in this sector is projected as Port Canaveral grows as a cruise destination for the Central Florida tourist market. The construction of new cruise terminals is being planned to meet this demand.

Maximum daily flows were projected based on historical peaking factors observed. In general, peaking factors are larger during dry years and are less pronounced during average rainfall years. The peaking factor used for projections is 1.50.

Table VII-1 - City of Cocoa Projected Water Use Demand and Flows (Based on Traffic Analysis Zone Population Projections by Major User Group)

Year	Population based on TAZ DATA Plus Viera	Customer Accounts	Dry Year Projections					Average Rainfall Year Projections					Projected Port Canaveral Flow MGD	Projected Flow For Average Year MGD	
			Per Capita Flow Dry Year	Dry Year Commercial and Domestic Flow MGD	Dry Year US Gov. Contract Flow MGD	Titusville Maximum Contract Flow MGD	Projected Port Canaveral Flow MGD	Projected Flow For Dry Year MGD	Maximum Daily Flow for Dry Year MGD	Per Capita Flow Average Year	Average Year Commercial and Domestic Flow MGD	Average Year US Gov. Contract Flow MGD			Titusville Minimum Contract Flow MGD
2003	189,335	67,741	129.8	24.57	4.50	1.50	1.04	31.61	47.41	123.9	23.46	3.70	0.79	1.04	28.98
2004	192,734	68,957	129.4	24.95	4.50	1.50	1.08	32.03	48.04	123.6	23.82	3.70	0.64	1.08	29.23
2005	196,133	70,173	129.1	25.32	4.50	1.50	1.13	32.45	48.67	123.3	24.18	3.70	0.53	1.13	29.53
2006	199,532	71,389	128.8	25.70	4.50	1.50	1.17	32.87	49.30	122.9	24.53	3.70	0.50	1.17	29.90
2007	202,931	72,605	128.5	26.07	4.50	1.50	1.22	33.28	49.93	122.6	24.89	3.70	0.50	1.22	30.30
2008	206,330	73,821	128.1	26.44	4.50	1.50	1.26	33.70	50.55	122.3	25.24	3.70	0.50	1.26	30.70
2009	209,729	75,037	127.8	26.81	4.50	1.50	1.31	34.11	51.17	122.0	25.59	3.70	0.50	1.31	31.09
2010	213,128	76,253	127.5	27.17	4.50	1.50	1.35	34.52	51.78	121.7	25.94	3.70	0.50	1.35	31.49
2011	216,527	77,469	127.2	27.53	4.50	1.50	1.40	34.93	52.39	121.4	26.28	3.70	0.50	1.40	31.88
2012	219,926	78,686	126.8	27.89	4.50	1.50	1.44	35.33	53.00	121.1	26.63	3.70	0.50	1.44	32.27
2013	223,325	79,902	126.5	28.25	4.50	1.50	1.49	35.74	53.60	120.8	26.97	3.70	0.50	1.49	32.65
2014	226,724	81,118	126.2	28.61	4.50	1.50	1.53	36.14	54.21	120.4	27.31	3.70	0.50	1.53	33.04
2015	230,123	82,334	125.8	28.96	4.50	1.50	1.58	36.54	54.80	120.1	27.65	3.70	0.50	1.58	33.42
2016	233,522	83,550	125.5	29.31	4.50	1.50	1.62	36.93	55.40	119.8	27.98	3.70	0.50	1.62	33.80
2017	236,921	84,766	125.2	29.66	4.50	1.50	1.67	37.33	55.99	119.5	28.31	3.70	0.50	1.67	34.18
2018	240,320	85,982	124.9	30.01	4.50	1.50	1.71	37.72	56.58	119.2	28.65	3.70	0.50	1.71	34.56
2019	243,719	87,198	124.5	30.35	4.50	1.50	1.76	38.11	57.16	118.9	28.97	3.70	0.50	1.76	34.93
2020	247,118	88,414	124.2	30.70	4.50	1.50	1.80	38.50	57.74	118.6	29.30	3.70	0.50	1.80	35.30
2021	250,517	89,630	123.9	31.04	4.50	1.50	1.85	38.88	58.32	118.3	29.63	3.70	0.50	1.85	35.67
2022	253,916	90,847	123.6	31.37	4.50	1.50	1.89	39.26	58.90	117.9	29.95	3.70	0.50	1.89	36.04
2023	257,315	92,063	123.2	31.71	4.50	1.50	1.94	39.64	59.47	117.6	30.27	3.70	0.50	1.94	36.40

See Table VI-6 for City of Cocoa Historical Water Use and Flows (by Major User Group)

Population Growth Rate 2003 - 2023 assumed to be 3399 people per year

TAZ 2020 Population Projections used with adjustment for growth in Viera DRI Area (19,060 additional)

Future Customer Account Growth Based on Population divided by 2.79 people per account (1990 data)

Future per capita flows reflect 5% reduction from 2002 to 2022.

Figure VII-1 - City of Cocoa Projected Water Use Demand and Flows

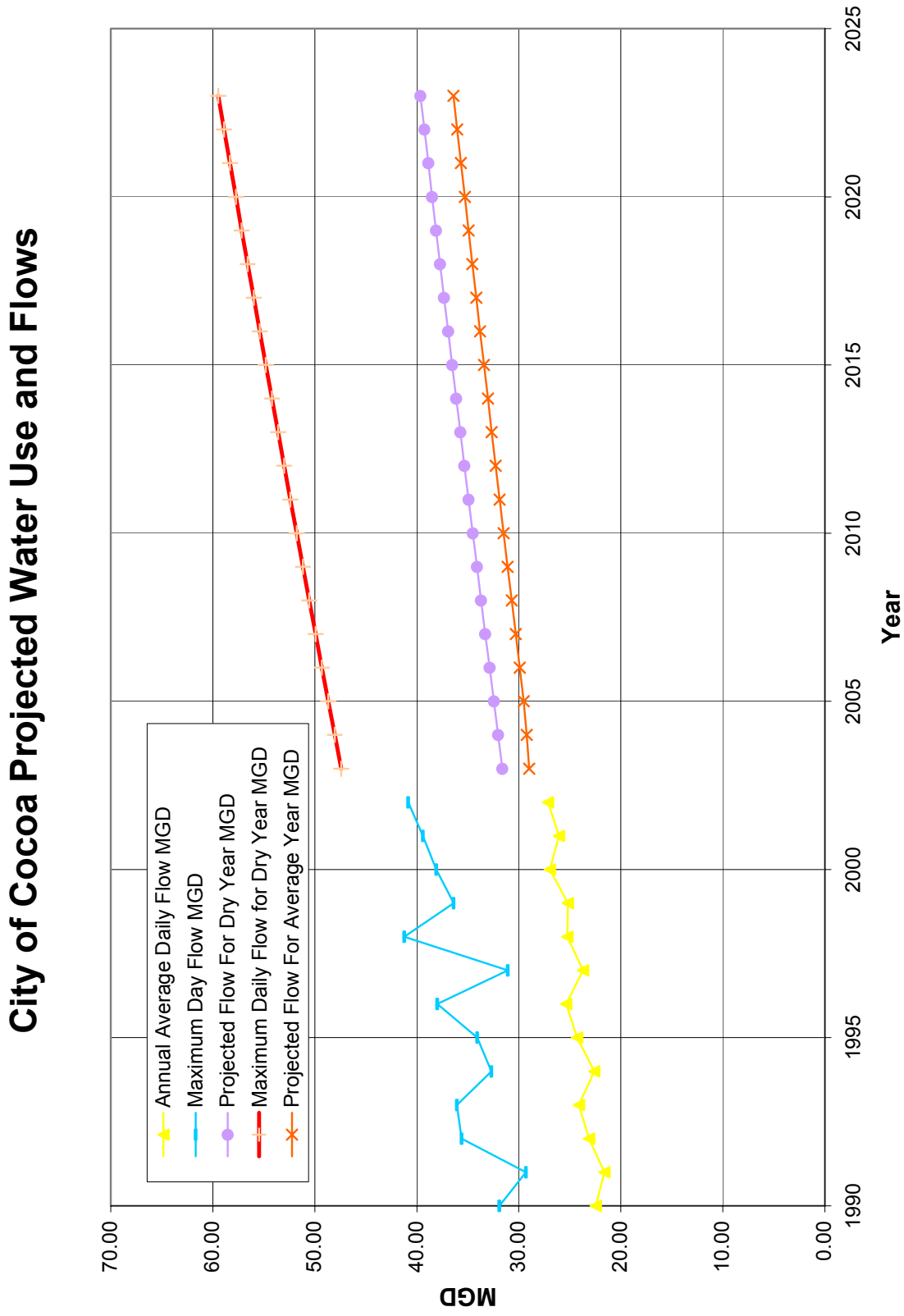


Table VII-2 - City of Cocoa Traffic Analysis Zone Data -
Source: SJRWMD

Area	Traffic Analysis Zone	1990 Population	2020 Population	Population Change	Percentage Increase/ (Decrease)
Central Mainland Area					
<i>Cocoa and Vicinity</i>	100	402	386	-16	-3.98%
	101	763	871	108	14.15%
	102	1295	2432	1137	87.80%
	103	1389	2020	631	45.43%
	104	323	446	123	38.08%
	105	2553	3256	703	27.54%
	106	188	1047	859	456.91%
	107	750	931	181	24.13%
	108	744	833	89	11.96%
	109	385	4486	4101	1065.19%
	110	636	770	134	21.07%
	112	79	148	69	87.34%
	113	1197	1729	532	44.44%
	114	12	430	418	3483.33%
	115	1009	1133	124	12.29%
	116	2266	2933	667	29.44%
	117	282	761	479	169.86%
	118	2229	2357	128	5.74%
	119	1445	2422	977	67.61%
	121	812	821	9	1.11%
	122	1131	1078	-53	-4.69%
	123	0	0	0	0.00%
	124	510	500	-10	-1.96%
	125	1381	1471	90	6.52%
	126	1403	1311	-92	-6.56%
	127	1207	1290	83	6.88%
	128	659	660	1	0.15%
	129	670	660	-10	-1.49%
	130	290	298	8	2.76%
	131	16	17	1	6.25%
	132	850	856	6	0.71%
	133	1716	1676	-40	-2.33%
	134	1189	1501	312	26.24%
Area Total		29781	41530	11749	39.45%
<i>Rockledge and Vicinity North of Barnes</i>	135	623	604	-19	-3.05%
	136	0	0	0	0.00%
	137	34	32	-2	-5.88%
	138	321	619	298	92.83%
	139	861	805	-56	-6.50%
	140	2483	4336	1853	74.63%
	141	0	0	0	0.00%
	142	1637	2202	565	34.51%
	143	1088	1112	24	2.21%
	144	841	929	88	10.46%
	145	936	931	-5	-0.53%
	146	741	817	76	10.26%
	147	0	0	0	0.00%
	148	2455	2621	166	6.76%
	149	2656	4406	1750	65.89%
	150	1089	1993	904	83.01%
	151	1030	1431	401	38.93%
	152	19	1880	1861	9794.74%
	153	157	203	46	29.30%
Area Total		16971	24921	7950	46.84%

Table VII-2 - City of Cocoa Traffic Analysis Zone Data -
Source: SJRWMD (continued)

Area	Traffic Analysis Zone	1990 Population	2020 Population	Population Change	Percentage Increase/ (Decrease)
Merritt Island Area					
KSC Area	400	3	0	-3	-100.00%
	400	3	0	-3	-100.00%
	401	0	0	0	0.00%
	402	0	0	0	0.00%
	403	0	0	0	0.00%
	404	0	0	0	0.00%
	405	0	0	0	0.00%
Area Total		6	0	-6	-100.00%

North of SR 528	406	1263	3302	2039	161.44%
	407	298	1105	807	270.81%
	408	767	2735	1968	256.58%
	409	333	2933	2600	780.78%
	410	828	2246	1418	171.26%
Area Total		3489	12321	8832	253.14%

West Between SR 528 and SR 520	411	1077	1499	422	39.18%
	412	937	1594	657	70.12%
	413	225	389	164	72.89%
	414	1316	2149	833	63.30%
	416	1816	1714	-102	-5.62%
	417	1493	1641	148	9.91%
	418	0	0	0	0.00%
	419	2507	2416	-91	-3.63%
	420	1189	1219	30	2.52%
	421	332	338	6	1.81%
	422	1129	1221	92	8.15%
	423	1165	1088	-77	-6.61%
	424	687	847	160	23.29%
	424	687	847	160	23.29%
	428	1	1	0	0.00%
	429	408	416	8	1.96%
	430	372	357	-15	-4.03%
Area Total		15341	17736	2395	15.61%

East Between SR 528 and SR 520	415	3474	3727	253	7.28%
	425	1761	2234	473	26.86%
	426	969	973	4	0.41%
	434	802	1251	449	55.99%
Area Total		7006	8185	1179	16.83%

South of SR520	431	1980	1905	-75	-3.79%
	432	0	0	0	0.00%
	433	510	1256	746	146.27%
	435	0	0	0	0.00%
	436	1768	1875	107	6.05%
	437	195	355	160	82.05%
	438	948	1598	650	68.57%
	439	1083	2120	1037	95.75%
	440	1017	1492	475	46.71%
	441	472	695	223	47.25%
	442	481	583	102	21.21%
Area Total		8454	11879	3425	40.51%

Table VII-2 - City of Cocoa Traffic Analysis Zone Data -
Source: SJRWMD (continued)

Area	Traffic Analysis Zone	1990 Population	2020 Population	Population Change	Percentage Increase/ (Decrease)
Merritt Island Area (cont'd)					
<i>South Newfound Harbor Drive</i>	427	1119	1658	539	48.17%
	443	1123	1359	236	21.02%
	444	423	509	86	20.33%
<i>Area Total</i>		2665	3526	861	32.31%
South Mainland Area					
<i>Viera and Vicinity East of I-95</i>	155	2	2790	2788	139400.00%
	158	596	1970	1374	230.54%
	164	167	5514	5347	3201.80%
	167	309	2697	2388	772.82%
<i>Area Total</i>		1074	12971	11897	1107.73%
<i>Viera and Vicinity West of I-95 and North of Wickham</i>	157	0	0	0	0.00%
	163	199	1260	1061	533.17%
	168	0	0	0	0.00%
	169	0	1499	1499	0.00%
	156	5	315	310	6200.00%
<i>Area Total</i>		204	3074	2870	1406.86%
<i>US 1 Area</i>	154	720	861	141	19.58%
	160	75	781	706	941.33%
	161	425	615	190	44.71%
	165	30	106	76	253.33%
<i>Area Total</i>		1250	2363	1113	89.04%
<i>Suntree Area North of Wickham</i>	159	282	5487	5205	1845.74%
	166	603	5238	4635	768.66%
<i>Area Total</i>		885	10725	9840	1111.86%
<i>Suntree Area South of Wickham</i>	162	77	323	246	319.48%
	200	3575	11857	8282	231.66%
	293	0	774	774	0.00%
<i>Area Total</i>		3652	12954	9302	254.71%
South Mainland Water Service Area Adjustment					
<i>Adjustment</i>	0	19060	19060	19060	100.00%
Beaches Area					
<i>CCAFS</i>	500	0	0	0	0.00%
<i>Area Total</i>		0	0	0	0.00%
<i>Port Canaveral</i>	501	5	0	-5	-100.00%
	502	0	0	0	0.00%
<i>Area Total</i>		5	0	-5	-100.00%
<i>Cape Canaveral and Vicinity</i>	503	422	696	274	64.93%
	504	601	672	71	11.81%
	505	2644	3803	1159	43.84%
	506	2739	2844	105	3.83%
	507	1183	1192	9	0.76%
	508	912	875	-37	-4.06%
<i>Area Total</i>		8501	10082	1581	18.60%

Table VII-2 - City of Cocoa Traffic Analysis Zone Data -
Source: SJRWMD (continued)

Area	Traffic Analysis Zone	1990 Population	2020 Population	Population Change	Percentage Increase/ (Decrease)
Beaches Area (cont'd)					
<i>Cocoa Beach and Vicinity</i>	509	1700	1660	-40	-2.35%
	510	639	682	43	6.73%
	511	854	868	14	1.64%
	512	808	1024	216	26.73%
	513	1223	1170	-53	-4.33%
	514	2280	2198	-82	-3.60%
	515	922	871	-51	-5.53%
	516	490	478	-12	-2.45%
	517	24	21	-3	-12.50%
	518	1287	1262	-25	-1.94%
	519	516	522	6	1.16%
	520	1855	1860	5	0.27%
	521	1207	2074	867	71.83%
<i>Area Total</i>		13805	14690	885	6.41%

<i>PAFB*</i>	522	690	858	168	24.35%
	523	0	0	0	0.00%
	524	1037	1287	250	24.11%
	530	3965	3966	1	0.03%
<i>Area Total</i>		5692	6111	419	7.36%

*PAFB population is included in Government Flows, not to be included in population projections

<i>System Total</i>					
<i>System Total</i>		134124	247117	113412	84.56%

B. Supply Analysis

Cocoa's supply relies on a blend of surface water, ground water, and stored water in its Aquifer Storage and Recovery (ASR) system. Presently, ground water supplies the majority of water and will continue to be Cocoa's primary supply during times of drought. It is projected that the Floridan and Intermediate Aquifers will supply about 26 mgd in 2003 and 31 mgd in 2023. However, surface water supplies will be relied upon more heavily and will make up a larger portion of the total system demand as the system grows. It is projected that the Taylor Creek Reservoir will supply 6.00 mgd in 2003 and increase to 8.64 mgd by 2023 (*Table VII-3 on page 25*).

Conservation

Cocoa has aggressively pursued water conservation and reclaimed water use to minimize potable water use.

Due to numerous factors such as the implementation of reclaimed water, development of alternative water sources, aggressive conservation program, and increasing block rate structures, a reduction in the per capita use rate to a relatively low amount of 96 gallons per day has resulted.

The City has implemented or accomplished the following conservation measures:

- Enforcing SJRWMD's permanent water conservation rule and water shortage orders;
- Providing daily water conservation public service announcements on television; providing videos to local schools and community organizations; maintaining a landscape demonstration project within the City; providing water conservation exhibits; public education including a minimum of twelve (12) presentations to schools and at public events; distributing water conservation information to customers via newsletter, billings, and newspaper; landscaping irrigation audits through a mobile irrigation laboratory; and providing hundreds of low-flow plumbing fixtures annually to retro-fit older residential and commercial buildings;
- Implementing an inclining block conservation based rate structure;
- Operating a residential meter change out program (about 3,000/year or 5% of total);
- Having a low unaccounted for water system-wide of less than 4%, due in part to a 2-inch galvanized pipe replacement program that has replaced over 9 miles of old pipes. The remaining 2 miles of old pipe should be replaced within four (4) years; and
- Having a very aggressive reuse program as described in (*VI.G. Reclaimed Water System*).

These factors have combined to reduce Cocoa's actual use of the Floridan Aquifer to a maximum of 23.92 MGD in 1996, or 4.08 MGD less than its 1997 CUP allocation. These flows are shown in *Table VI-5* on page 9.

Water Supply Strategy

Cocoa has submitted a revised water supply plan as part of its CUP application as described in (*VI. F. Permit Conditions and Duration*). The revised water supply plan is currently under review by SJRWMD. The plan proposes the City investigate, in cooperation with Orange County Utilities (OCU), options for a partnership with OCU to produce at least 4 mgd of potable water on an average day from the City's water supply system for use within the OCU service or other areas of Orange County. If feasible options are identified, the City will formulate a plan for SJRWMD review and approval. If no option can be jointly selected by the City and the OCU, the City will provide to SJRWMD an explanation as to the reasons that no option was selected.

There is also a possibility that additional Floridan Aquifer supplies will be made available through mitigation or avoidance of environmental impacts. In order to offset any impacts, Cocoa is proposing to participate with other Central Florida utilities in avoidance or mitigation measures in a pro rata share based on the amount of impact as compared to those impacts caused by increased Floridan Aquifer demands by other utilities. It is also recognized that water quality impacts to the Cocoa Well Field are a concern in the development of other ground water withdrawals in the vicinity of our wells. Cocoa will cooperate in studies necessary to

protect water quality in its well field while allowing an increase of groundwater use in the region.

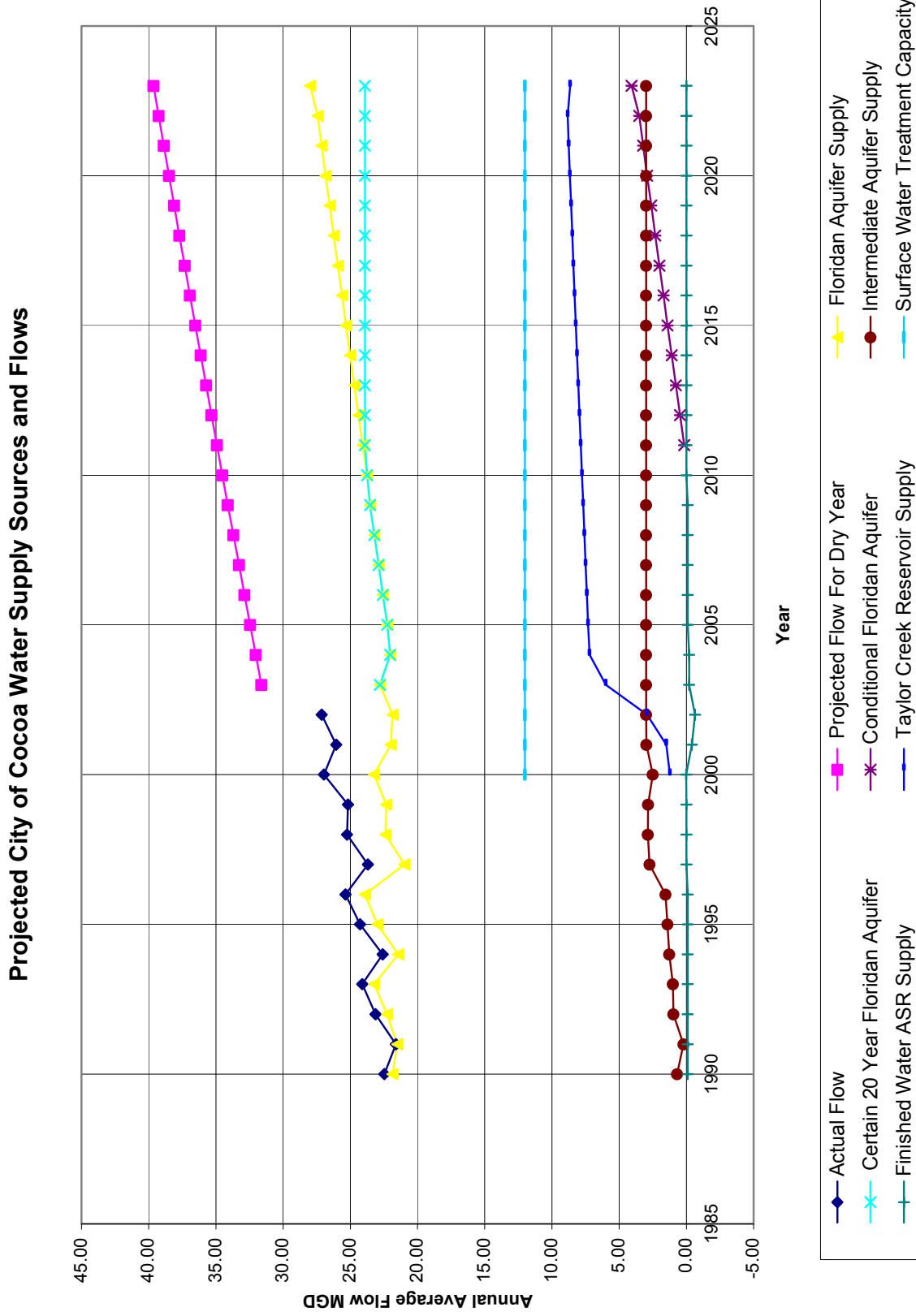
Table VII-1 on page 17 and *Table VII-3* on page 25 list all projected flows and proposed supply sources through 2023. In 2023, the City is projecting an average demand of 36.40 mgd with an average supply of 39.64 mgd. Maximum flows of 59.47 mgd are projected for both supply and demand in 2023. The *District Water Supply Plan (SJRWMD 2000)* identified an average daily and a maximum daily demand deficit of 3.05 mgd and 8.68 mgd respectively in 2020. The City has since updated its projections through its CUP renewal process to show sufficient capacity to supply needs until 2023. The conservation measures described on page 22 reduced the per capita demand and the continued increase in the use of surface water from the Taylor Creek Reservoir will supplement the groundwater supply, as demonstrated in *Table VII-3*.

The City recognizes the serious shortfall of groundwater to supply future water demand and will be participating in the implementation phase of the SJRWMD's East-Central Florida Water Supply Planning Initiative in order to find regional solutions for potential water supply problems, including the development of alternative water sources to supplement the groundwater supply. Currently, the City is using and plans to increase the development and use of alternative water sources to supplement the groundwater supply. By 2023, the City plans to withdraw an average of 8.64 mgd from the Taylor Creek Reservoir, an increase of 5.72 mgd from 2002. Through further improvements to the reclaimed water system and ASR technology, the City plans to make 100% reuse of these sources a realistic goal.

Table VII-3 – City of Cocoa Projected Water Supply Sources and Flows

Year	ANNUAL AVERAGE DAILY FLOW (MGD)						MAXIMUM DAILY FLOW (MGD)					
	Projected Flow For Dry Year	Floridan Aquifer Supply	Intermediate Aquifer Supply	Finished Water ASR Supply	Taylor Creek Reservoir Supply	Projected Flow Dry Year	Floridan Aquifer Supply	Intermediate Aquifer Supply	Finished Water ASR Supply	Raw Ground Water ASR Supply	Taylor Creek Reservoir Supply (>39' NGVD)	Taylor Creek Reservoir Supply (37 to 39' NGVD)
2003	31.61	22.81	3.00	-0.20	6.00	47.41	37.41	3.0	7	0	12	6
2004	32.03	22.02	3.00	-0.20	7.21	48.04	37.04	3.0	8	0	12	6
2005	32.45	22.25	3.00	-0.10	7.30	48.67	37.17	3.5	8	0	12	6
2006	32.87	22.57	3.00	-0.10	7.40	49.30	37.80	3.5	8	0	12	6
2007	33.28	22.90	3.00	-0.10	7.49	49.93	38.43	3.5	8	0	12	6
2008	33.70	23.22	3.00	-0.10	7.58	50.55	39.05	3.5	8	0	12	6
2009	34.11	23.54	3.00	-0.10	7.67	51.17	39.67	3.5	8	0	12	6
2010	34.52	23.75	3.00	0.00	7.77	51.78	40.28	3.5	8	0	12	6
2011	34.93	24.07	3.00	0.00	7.86	52.39	40.89	3.5	8	0	12	6
2012	35.33	24.38	3.00	0.00	7.95	53.00	41.50	3.5	8	0	12	6
2013	35.74	24.70	3.00	0.00	8.04	53.60	42.10	3.5	8	0	12	6
2014	36.14	25.01	3.00	0.00	8.13	54.21	42.71	3.5	8	0	12	6
2015	36.54	25.32	3.00	0.00	8.22	54.80	43.30	3.5	8	0	12	6
2016	36.93	25.62	3.00	0.00	8.31	55.40	43.90	3.5	8	0	12	6
2017	37.33	25.93	3.00	0.00	8.40	55.99	44.49	3.5	8	0	12	6
2018	37.72	26.23	3.00	0.00	8.49	56.58	45.08	3.5	8	0	12	6
2019	38.11	26.53	3.00	0.00	8.57	57.16	45.66	3.5	8	0	12	6
2020	38.50	26.83	3.00	0.00	8.66	57.74	46.24	3.5	8	0	12	6
2021	38.88	27.13	3.00	0.00	8.75	58.32	46.82	3.5	8	0	12	6
2022	39.26	27.43	3.00	0.00	8.83	58.90	47.40	3.5	8	0	12	6
2023	39.64	28.00	3.00	0.00	8.64	59.47	47.97	3.5	8	0	12	6

Figure VII-2 – City of Cocoa Projected Water Supply Sources and Flows



C. SJRWMD Confirmation

The SJRWMD has confirmed by letter that the City has developed a water supply facilities work plan that addresses projected needs and is consistent with the *District Water Supply Plan (SJRWMD 2000)*. A copy of the letter is provided in Exhibit “D”.

VIII. FACILITY ANALYSIS

A. Twenty-Year Work Plan

Due to the 20-year CUP renewal process and the abundance of data and projections in a twenty-year timeframe, the City has opted to develop a Twenty-Year Work Plan instead of the required ten.

The City of Cocoa has developed a sophisticated integrated water supply system consisting of supply and demand side elements. The combination of alternative water sources such as the Taylor Creek Reservoir, reclaimed water, and ASR technology will shift demand away from groundwater supplies while conservation measures like increased block rate structures, more efficient technology, education, and enforcement should lower usage. This integrated approach will provide water customers in Central Brevard County with a reliable system at a reasonable cost.

The Claude H. Dyal Water Treatment Plant has a maximum capacity of 48 mgd and the Taylor Creek treatment expansion has a maximum capacity of 12 mgd to potentially serve demands until 2023 with additional capacity upgrades to transmission, distribution, and storage facilities occurring during the next 20 years. With a total processing capacity at 60 mgd, the City will be able to serve a projected maximum 59.47 mgd if a dry year occurs in 2023.

Every five (5) years, the City plans to update its Work Plan in conjunction with the preparation of CUP compliance reports in order to verify that the water sources and facilities are capable of supplying the needs of Cocoa.

B. Ten-Year Schedule of Capital Improvements

In order to provide sufficient facility capacity, the City has established a Ten-Year Schedule of Capital Improvements, which is attached as Exhibit “E”. The schedule of improvements was generated by the City, with no requests received from other local governments. The improvements will enable the City to accommodate projected flows from existing sources, including a 12 mgd capacity increase of the Taylor Creek Reservoir surface water treatment facility at the Dyal Plant to handle additional demand beyond 2023. Of the proposed capital projects, the following will increase the City’s treatment, distribution, and transmission capacity:

1. S. Merritt Island 16" Water Main ('02=1000 ft; '04=1.2mi along SR3 from SR520 to MI Airport; '03=3.2mi; '08=2.3mi along S. Tropical Trail from Georgiana St to Pineda Causeway)
2. Well field 42" Pipe (~3mi)
3. S. Mainland 42" Water Main (~24000 ft)
4. Fiske Blvd. Improvements
5. Raw Water ASR Demonstration Project-Admin. [District participation=\$1.2m]
6. Port Canaveral Ground Storage & Pump Station.
7. S.R. 5 (US 1) Relocation of W/WW/RW Mains (Barnes to RLJones/RLJones to Cidco Rd.)
8. S.R. 3 (Courtenay Pkwy) from SR520 to SR528
9. Expand Surface Water Treatment Capacity
10. Construct/equip Reclaimed ASR Wells [District participation=\$675,000; Cocoa's cost is \$225,000]
11. Reuse Ground Storage Tank incl. land acquisition
12. Expand Waste Water Treatment Capacity

IX. REVISED COMPREHENSIVE PLAN ELEMENTS

A draft ordinance, which revises the Intergovernmental Coordination, Capital Improvements, Conservation, and Public Facilities Elements, is attached as Exhibit "F". After assessing the current Comprehensive Plan, the City feels that these are the only elements that need to be amended in order to implement the Water Supply Facilities Work Plan. Below is an analysis of the pertinent elements of the Comprehensive Plan:

A. Capital Improvements

No amendments to the Goals, Objectives, and Policies of the Capital Improvements Element are proposed. Only Attachment IX of the background document will be updated to reflect at least a five-year schedule of capital improvements.

B. Intergovernmental Coordination

Policies in the Intergovernmental Coordination Element will be revised to establish a relationship between the Water Facilities Work Plan, District Water Supply Plan (SJRWMD 2000), SJRWMD's water supply assessments, Consumptive Use Permit process, East Central Florida Water Supply Planning Initiative, East Central Florida Regional Planning Council, SJRWMD staff, and local governments throughout Cocoa's water service area.

Policies will be added to the Intergovernmental Coordination Element to address the following:

- Supply and demand projections will be consistent with the abovementioned plans, assessments, and processes.
- The City will actively participate in water supply planning work groups and meetings on an as-needed basis.

C. Public Facilities Elements

The most recent minimum level of service (LOS) standards for wastewater were effective on May 14, 1996 and have been verified to be up-to-date and effective as of September 5, 2000. Potable water minimum LOS standards were also updated to reflect a 40-50 psi peak hour pressure.

Potable Water Sub-Element

Two additional objectives and associated policies were added to the Potable Water Sub-Element to address the Water Supply Facilities Work Plan.

The first objective requires the City to maintain a Water Supply Facilities Work Plan that covers a minimum ten-year planning period. The associated policies require continuous updates to the Water Facilities Work Plan including consistency with LOS standards and State and regional plans, a plan to seek alternative sources of water, demand projections, a capital improvements schedule, and the provision of facilities to withdraw, transmit, treat, store and distribute potable water.

The second objective requires the City to identify and use water supply sources that are consistent with the Water Supply Facilities Work Plan. The associated policies will direct the City to develop feasible water sources and avoid adverse impacts to the environment. The policies will also require the City to maximize the use of alternative water supplies and implement management techniques in order to sustain water resources, and enhance existing supplies.

D. Conservation

No amendments to the Goals, Objectives, and Policies of the Capital Improvements Element are proposed. Only the background document of the Conservation Element will be revised to update the projected water demands and sources identified in the Water Supply Facilities Work Plan.

Groundwater Sub-Element

The City feels the Groundwater Sub-element already addresses the requirements of the Water Supply Facilities Work Plan. The objective of the Groundwater Sub-Element is to reduce per capita consumption of fresh groundwater by its residents through conservation and reuse of existing water supplies, and through the establishment and use of non-potable supplies.

X. EXHIBITS AND MAPS

Exhibit “A”

**Chapter 57-1232, Laws of
Florida**

Senate Bill No. 1134

Date	7-22	# of pages	17
From	Ann T.		
Co.	Library		
Phone	850-486-2812		
Fax	850-486-2812		

Post-It® Fax Note 7671

To	Ann
Co/Dept.	
Phone	
Fax	850-486-2812

LAWS OF FLORIDA

CHAPTER 57-1232

CHAPTER 57-1232

SENATE BILL NO. 1134

AN ACT authorizing the City of Cocoa, Florida, to extend its water mains and water distribution system without the City of Cocoa, Florida, and in certain parts of Brevard County, Florida, and to sell water through said system to private individuals or other users for profit; to exercise the right of eminent domain for all of said purposes without the City of Cocoa and in certain parts of Brevard County, Florida; authorizing the city to construct, maintain, and operate a sewage disposal system or systems within the City of Cocoa, and to maintain and operate any sewage disposal system without the City of Cocoa and in certain parts of Brevard County, Florida, either for itself or for others, independently or in connection with the operation of the waterworks system of said city; and to provide that all of the provisions of Chapter 184 of the Florida Statutes relating to municipal sewers and municipal sewer financing shall apply to the City of Cocoa, and the powers therein given may be exercised by the city in certain parts of Brevard County, Florida; and granting to the city the power to exercise the right of eminent domain for said purposes in such parts of Brevard County, Florida.

Be It Enacted by the Legislature of the State of Florida:

Section 1. The City of Cocoa is hereby authorized to extend its water mains and water distribution system without the limits of the City of Cocoa, Florida, and in Brevard County, Florida, and to sell water through said system to private individuals or other users for profit; provided, however, that the City of Cocoa shall not extend its water mains and water distribution system or operate said system north of the north line of township twenty-three (23) or south of the south line of township twenty-six (26) in Brevard County, Florida, nor within the corporate limits of any other municipality now existing in Brevard County, Florida, without the consent of such municipality.

Section 2. The City of Cocoa is hereby authorized to exercise the right of eminent domain for the purpose of extending the water mains and water distribution system of said City in Brevard County, Florida, within the limits aforesaid, in accordance with the provisions of Chapter 73 of the Florida Statutes.

CHAPTER 57-1232

LAWS OF FLORIDA

Section 3. The City of Cocoa is hereby authorized to construct, maintain, and operate a sewage disposal system or systems within the limits of the City of Cocoa; and to maintain and operate sewage disposal systems without the limits of the City of Cocoa, and at any place in Brevard County, Florida, lying between the north line of Township twenty-three (23) and the south line of Township twenty-six (26); provided, however, the City of Cocoa shall not operate any sewage disposal system in any other municipality now existing without the consent and permission of said municipality.

Section 4. The City of Cocoa is hereby authorized to construct, maintain, or operate such sewage disposal systems, as provided in Section 3, for itself or for others, and independently of or in connection with the operation of the waterworks system of the City of Cocoa.

Section 5. The provisions of Chapter 184 of the Florida Statutes relating to municipal sewers and municipal sewer financing are hereby adopted for and made applicable to the City of Cocoa; and all of the powers provided by Chapter 184 of the Florida Statutes are hereby expressly made applicable to and conferred upon the City of Cocoa; and such powers may be exercised by the City of Cocoa throughout the area in Brevard County, Florida, lying south of the north line of Township twenty-three (23) and north of the south line of Section twenty-six (26); but such powers may not be exercised in any other municipality now existing without the consent and permission of such municipality.

Section 6. The City of Cocoa is hereby authorized to exercise the right of eminent domain for the purpose of constructing, maintaining and operating sewage disposal systems within or without the limits of the City of Cocoa and within the area defined in Section 5.

Section 7. All laws or parts of laws in conflict herewith be and the same are hereby repealed.

Section 8. This act shall become effective upon its passage and its approval by the Governor, or upon its becoming a law without such approval.

Became a law without the Governor's approval.

Filed in Office Secretary of State June 29, 1957.

Exhibit “B”

SJRWMD

Consumptive Use Permit No.

2-095-0005UGMR

February 20, 1979 DATE ISSUED

- . Withdrawal of groundwater for municipal public water supply
- . in allocations provided in the Special Conditions.

LOCATED IN Orange/Brevard COUNTY, SECTION _____ TWP. 23 RGE. 21E

- . City of Cocoa
- . P.O. Box 1750
- . Cocoa, Florida 32922

Agent: Bill Stephenson, P.E., Director of Utilities

This permit is issued pursuant to Application for Permit No. 28059 dated 12/12/ 19 75 and permittee's agreement to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof. This permit may be cancelled upon thirty (30) days written notice to the permittee or under emergency circumstances as set forth in the District's Rules, with which permittee is put on notice. This permit does not convey to permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee. Special Condition two (2) of this permit expires on February 19, 1989. Special Condition one (1) of this permit expires on February 19, 2014. Application for amendment or renewal of this permit shall be made no later than six months prior to the date of expiration. This Permit may be revoked or modified at anytime pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

[illegible]

Special Conditions numbered 1 through 10, as shown on the attached sheet are incorporated herein.

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Don L. Harris

By: Adolf O. Rose

SPECIAL CONDITIONS

1. The applicant's existing use on the date of the application is approved for a permit duration of 25 years. This includes a maximum daily withdrawal of 23 MGD and an average daily withdrawal of 16 MGD.
2. The applicant's new use of 17 MGD shall be permitted for a duration of 10 years.
3. Under conditions 1 and 2 the maximum daily withdrawal shall not exceed 40 MGD and the average daily withdrawal shall not exceed 30 MGD.

Due to the large intrusion potential in this area, the following special conditions are recommended:

4. Condition to monitor quality: The following wells shall be monitored semi-annually to indicate the effects of withdrawal on area water quality.

A. Supply Wells

- | | |
|--------------|--------------|
| (1) Cocoa 11 | (5) Cocoa 14 |
| (2) Cocoa 7A | (6) Cocoa 15 |
| (3) Cocoa 7 | (7) Cocoa 16 |
| (4) Cocoa 13 | (8) Cocoa 17 |

B. Salinity Monitor Well C

- | | |
|------------|------------|
| (1) Zone 1 | (3) Zone 4 |
| (2) Zone 3 | (4) Zone 5 |

C. Hydrologic Monitor Wells (Benchmark Wells)

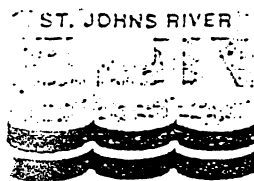
- | | |
|-------------|-------------|
| (1) Bithlo | (3) Cocoa A |
| (2) Cocoa H | (4) Cocoa D |

Chloride concentrations, dissolved solids, and sulfate parameters shall be analyzed. The USGS is currently performing this task in a continuing program with the City.

5. Condition for data availability: The City will send the District copies of all analyses run by the City, U.S. Geological Survey, or their consultants in accordance with condition 4 and copies of all technical reports by the above mentioned groups listing and/or analyzing available data. This data will be retained by the District for future evaluation.
6. Condition for Notification of Changes: The City shall notify the District of:
 - A. Future expansion plans
 - B. An increase in connection rates
 - C. Potential increase in federal water use due to NASA programs that may impact water usage in excess of current annual increases.
7. Condition - Pumpage Management Plan: A pumpage management plan shall be provided which will allow partial recovery of water levels as such time as chloride concentrations increase in wells 7A or 13 to levels of 250 or 300 mg/l, respectively. Because this pumpage management plan includes the reordering of pumping schedules in order to reduce the rate of intrusion at one or two indicator wells, the District feels it should be done internally by the City under the advisement of their consultants. It is felt the City should begin contingency planning immediately so that if and when intrusion levels reach the critical values indicated above, basic procedures and plans will already be defined. This plan shall be implemented within 30 days after initial concentrations are recorded. This plan shall be completed and supplied to the District for review within one year of the permit issuance.
8. Monthly pumpage records should be submitted to the District on a quarterly basis no later than 30 days following the beginning of the following quarter.
9. Continuous water level records shall be kept on the 4 bench mark wells and

said records forwarded to the District on a quarterly basis with the pumpage records.

10. The allotment is subject to revocation upon a showing of interference with the legal water rights of other users, or any other violation of Chapter 373, Florida Statutes and 16I, Florida Administrative Code.



WATER
MANAGEMENT
DISTRICT

Henry Dean, Executive Director
John R. Wehle, Assistant Executive Director

POST OFFICE BOX 1429 PALATKA, FLORIDA 32178-1429
TELEPHONE 904/329-4500 SUNCOM 904/860-4500
FAX (EXECUTIVE/LEGAL) 321-4125 (PERMITTING) 321-4315 (ADMINISTRATION/FINANCE) 321-4508

GOVERNING BOARD MEMBERS

Sandra H. Gray
CHAIRMAN
DE LARY

Joe E. Hill
VICE CHAIRMAN
LEEBOURNE

Thomas L. Durrance
TREASURER
DAYTONA BEACH

Alice J. Weinberg
SECRETARY
LAKE MARY

John L. Minton
VERNO BEACH

Ralph E. Simmons
FERMINA BEACH

Val M. Steele
MELBOURNE BEACH

Joseph D. Collins
JACKSONVILLE

Merrin C. Fore
OCALA

FEBRUARY 7, 1991

CITY OF COCOA
ATTN: WILLIAM H. STEPHENSON
P. O. BOX 1750
COCOA, FL 32922

SUBJECT: Consumptive Use Permit No. 2-095-0005UGVR

This is your corrected copy of the cover letter indicating the correct expiration date. This letter had been previously mailed with your permit and the forms necessary for submitting information to comply with conditions of the permit as authorized by the Governing Board of the St. Johns River Water Management District on DECEMBER 11, 1990. Also attached is Form EN-1 which is used to indicate the person who will be responsible for reporting your compliance information. Designating one person to be responsible for reporting this information will simplify the compliance process by allowing us to contact the person most familiar with this information and enable use to keep our files up-to-date for any future reference. Please return Form EN-1 completed with your first report to the District. All compliance information must be submitted to the District's Palatka office, P. O. Box 1429, Palatka, Florida 32178-1429.

Permit issuance does not relieve you from the responsibility of obtaining permits from any federal, state, and/or local agencies asserting concurrent jurisdiction for this work. The enclosed permit will expire on DECEMBER 11, 1997.

The permit enclosed is a legal document and should be kept with your other important documents. Please read the permit carefully since you are responsible for compliance with any provisos which are a part of this permit. Proviso compliance is a legal requirement and your assistance in this matter will be greatly appreciated.

FIELD STATIONS

OPERATIONS:
2135 N. Wickham Road
Melbourne, Florida 32935-8109
407/254-1762

PERMITTING:
305 East Drive
Melbourne, Florida 32904
407/564-4940

7775 Baymeadows Way
Suite 102
Jacksonville, Florida 32256
904/730-6270

618 E. South Street
Orlando, Florida 32801
407/854-5423

CITY OF COCOA
PAGE TWO
FEBRUARY 7, 1991

According to Chapter 40C-2.401 and Section 6.4 of the Consumptive Water Use Handbook, a permanent tag is issued by the District for well identification. This tag must be prominently displayed at the site of withdrawal by permanently affixing the tag to the pump, headgate, valve, or other withdrawal facility. Failure to display a well tag shall constitute violation of a permit condition and may, if willful, be grounds for revocation of the permit. Please refer to your copy of 40C-2 if you need further clarification.

You will find enclosed a copy of the map submitted with your application, with each well's location and number identified. When placing the tag on the well, refer to this map to ensure proper well identification.

If you have any questions concerning your permit compliance information, the attached forms or well tags, contact me at 904-329-4274.

Thank you for your interest in our water resources.

Sincerely,

Rosie Parker / fm

Rosie Parker, Data Control Technician II
Division of Records

cc: David M. Caldevilla
de la Parte and Gilbert
705 East Kennedy Boulevard
P. O. Box 172537
Tampa, FL 33672-0537

"EXHIBIT A"

CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 2-C95-DDD5UGMR

CITY OF MELBOURNE

DATED DECEMBER 12, 1990

1. DISTRICT AUTHORIZED STAFF, UPON PROPER IDENTIFICATION, WILL HAVE PERMISSION TO ENTER, INSPECT AND OBSERVE PERMITTED AND RELATED FACILITIES IN ORDER TO DETERMINE COMPLIANCE WITH THE APPROVED PLANS, SPECIFICATIONS AND CONDITIONS OF THIS PERMIT.
2. NOTHING IN THIS PERMIT SHOULD BE CONSTRUED TO LIMIT THE AUTHORITY OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT TO DECLARE A WATER SHORTAGE AND ISSUE ORDERS PURSUANT TO SECTION 373.175, FLORIDA STATUTES, OR TO FORMULATE A PLAN FOR IMPLEMENTATION DURING PERIODS OF WATER SHORTAGE, PURSUANT TO SECTION 373.246, FLORIDA STATUTES. IN THE EVENT OF A WATER SHORTAGE, AS DECLARED BY THE DISTRICT GOVERNING BOARD, THE PERMITTEE MUST ADHERE TO REDUCTIONS IN WATER WITHDRAWALS AS SPECIFIED BY THE DISTRICT.
3. PRIOR TO THE CONSTRUCTION, MODIFICATION, OR ABANDONMENT OF A WELL, THE PERMITTEE MUST OBTAIN A WATER WELL CONSTRUCTION PERMIT FROM THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT PURSUANT TO CHAPTER 40C-3, FLORIDA ADMINISTRATIVE CODE. CONSTRUCTION, MODIFICATION OR ABANDONMENT OF A WELL WILL REQUIRE MODIFICATION OF THE CONSUMPTIVE USE PERMIT WHEN SUCH CONSTRUCTION, MODIFICATION OR ABANDONMENT IS OTHER THAN THAT SPECIFIED AND DESCRIBED ON THE CONSUMPTIVE USE PERMIT APPLICATION FORM.
4. LEAKING OR INOPERATIVE WELL CASINGS, VALVES, OR CONTROLS MUST BE REPAIRED OR REPLACED AS REQUIRED TO ELIMINATE THE LEAK OR MAKE THE SYSTEM FULLY OPERATIONAL.
5. PERMITTEE MUST MITIGATE ANY ADVERSE IMPACT CAUSED BY WITHDRAWALS PERMITTED HEREIN ON LEGAL USES OF WATER EXISTING AT THE TIME OF PERMIT APPLICATION. THE DISTRICT HAS THE RIGHT TO CURTAIL PERMITTED WITHDRAWAL RATES OR WATER ALLOCATIONS IF THE WITHDRAWALS OF WATER CAUSE AN ADVERSE IMPACT ON LEGAL USES OF WATER WHICH EXISTED AT THE TIME OF PERMIT APPLICATION. ADVERSE IMPACTS ARE EXEMPLIFIED BUT NOT LIMITED TO:
 - (A) REDUCTION OF WELL WATER LEVELS RESULTING IN A REDUCTION OF 10% IN THE ABILITY OF AN ADJACENT WELL TO PRODUCE WATER;
 - (B) REDUCTION OF WATER LEVELS IN AN ADJACENT SURFACE WATER-BODY RESULTING IN A SIGNIFICANT IMPAIRMENT OF THE USE OF WATER IN THAT WATER BODY;
 - (C) SALINE WATER INTRUSION OR INTRODUCTION OF POLLUTANTS INTO THE WATER SUPPLY OF AN ADJACENT WATER USE RESULTING IN A SIGNIFICANT REDUCTION OF WATER QUALITY; AND
 - (D) CHANGE IN WATER QUALITY IN EITHER IMPAIRMENT OR LOSS OF USE OF A WELL OR WATERBODY.
6. PERMITTEE MUST MITIGATE ANY ADVERSE IMPACT CAUSED BY WITHDRAWALS PERMITTED HEREIN ON ADJACENT LAND USES WHICH EXISTED AT THE TIME OF PERMIT APPLICATION. THE DISTRICT HAS THE RIGHT TO CURTAIL PERMITTED WITHDRAWAL RATES OF WATER ALLOCATIONS IF WITHDRAWALS OF WATER CAUSE AN ADVERSE IMPACT ON ADJACENT LAND USE WHICH EXISTED AT THE TIME OF PERMIT APPLICATION. ADVERSE IMPACTS ARE EXEMPLIFIED BY BUT NOT LIMITED TO:

(A) SIGNIFICANT REDUCTION IN WATER LEVELS IN AN ADJACENT SURFACE WATER BODY;

(B) LAND COLLAPSE OR SUBSIDENCE CAUSED BY A REDUCTION IN WATER LEVELS; AND

(C) DAMAGE TO CROPS AND OTHER TYPES OF VEGETATION.

7. THE DISTRICT MUST BE NOTIFIED, IN WRITING, WITHIN 30 DAYS OF ANY SALE, CONVEYANCE, OR OTHER TRANSFER OF A WELL OR FACILITY FROM WHICH THE PERMITTED CONSUMPTIVE USE IS MADE OR WITHIN 30 DAYS OF ANY TRANSFER OF OWNERSHIP OR CONTROL OF THE REAL PROPERTY AT WHICH THE PERMITTED CONSUMPTIVE USE IS LOCATED. ALL TRANSFERS OF OWNERSHIP OR TRANSFERS OF PERMITS ARE SUBJECT TO THE PROVISIONS OF SECTION 40C-1.612, FLORIDA ADMINISTRATIVE CODE.
8. A DISTRICT-ISSUED IDENTIFICATION TAG SHALL BE PROMINENTLY DISPLAYED AT EACH WITHDRAWAL SITE BY PERMANENTLY AFFIXING SUCH TAG TO THE PUMP, HEADGATE, VALVE OR OTHER WITHDRAWAL FACILITY AS PROVIDED BY SECTION 40C-2.401, FLORIDA ADMINISTRATIVE CODE. PERMITTEE SHALL NOTIFY THE DISTRICT IN THE EVENT THAT A REPLACEMENT TAG IS NEEDED.
9. IF THE PERMITTEE DOES NOT SERVE A NEW PROJECTED DEMAND LOCATED WITHIN THE SERVICE AREA UPON WHICH THE ANNUAL ALLOCATION WAS CALCULATED, THE ANNUAL ALLOCATION WILL BE SUBJECT TO MODIFICATION.
10. ON THE TENTH DAY FOLLOWING THE MONTH OF RECORD, PERMITTEE MUST SUBMIT TO THE DISTRICT COPIES OF THE DER MONTHLY WATER TREATMENT PLANT REPORTS ON A MONTHLY BASIS FOLLOWING THE MONTH OF RECORD. THE PERMIT NUMBER MUST BE ATTACHED TO ALL REPORTS.
11. THIS PERMIT WILL EXPIRE SEVEN (7) YEARS FROM DATE OF ISSUANCE.
12. MAXIMUM ANNUAL WITHDRAWALS MUST NOT EXCEED:
- | | |
|------------|---------|
| 9.90 BGAL | IN 1990 |
| 10.26 BGAL | IN 1991 |
| 10.52 BGAL | IN 1992 |
| 10.79 BGAL | IN 1993 |
| 11.05 BGAL | IN 1994 |
| 11.32 BGAL | IN 1995 |
| 11.32 BGAL | IN 1996 |
| 11.32 BGAL | IN 1997 |
- 31.013 MGAL AADP
13. MAXIMUM DAILY WITHDRAWALS MUST NOT EXCEED:
- | | |
|-----------|---------|
| 41.2 MGAL | IN 1990 |
| 42.6 MGAL | IN 1991 |
| 43.9 MGAL | IN 1992 |
| 45.3 MGAL | IN 1993 |
| 46.6 MGAL | IN 1994 |
| 48.0 MGAL | IN 1995 |
| 48.0 MGAL | IN 1996 |
| 48.0 MGAL | IN 1997 |
14. PRIOR TO PRODUCTION WITHDRAWALS FROM ANY OF THE PROPOSED FLORIDAN AQUIFER WELLS IN THE EASTERN WELLFIELD, A MONITOR WELL(S) MONITORING, AT A MINIMUM, THE FIRST AND SECOND MAJOR FLOW ZONES BELOW THE PRODUCING ZONE, SHALL BE CONSTRUCTED, FULLY DEVELOPED AND A REPRESENTATIVE BACKGROUND WATER QUALITY

SAMPLE MUST BE COLLECTED, ANALYZED AND THE RESULTS SENT TO THE DISTRICT. THE MONITOR WELL(S) SHALL BE LOCATED IN THE VICINITY OF WELL 74. THE DISTRICT MUST APPROVE THE CONSTRUCTION AND TESTING SPECIFICATIONS PRIOR TO CONSTRUCTION.

15. PRIOR TO PRODUCTION WITHDRAWALS FROM ANY OF THE PROPOSED FLORIDAN AQUIFER WELLS IN THE WESTERN WELLFIELD, A MONITOR WELL(S) MONITORING, AT A MINIMUM, THE FIRST MAJOR FLOW ZONE BELOW THE PRODUCING ZONE, SHALL BE CONSTRUCTED, FULLY DEVELOPED AND A REPRESENTATIVE BACKGROUND WATER QUALITY SAMPLE MUST BE COLLECTED, ANALYZED AND THE RESULTS SENT TO THE DISTRICT. THE MONITOR WELL(S) SHALL BE LOCATED IN THE VICINITY OF WELL 21. THE DISTRICT MUST APPROVE THE CONSTRUCTION AND TESTING SPECIFICATIONS PRIOR TO CONSTRUCTION.
16. THE BACKGROUND WATER QUALITY SAMPLES FROM THE DEEP EASTERN AND WESTERN MONITOR WELLS MUST BE ANALYZED FOR:

CALCIUM	CHLORIDES
MAGNESIUM	SULFATE
SODIUM	CARBONATE
POTASSIUM	EI-CARBONATE (ALKALINITY)

17. THE PERMITTEE SHALL IMMEDIATELY APPLY FOR ALL PERMITS NEEDED TO CONSTRUCT PROPOSED WELLS 20, 21, 22, 31, 32 AND 33 UPON THE ISSUANCE OF THIS PERMIT. THE PERMITTEE SHALL ACQUIRE ANY WELL SITES, TRANSMISSION LINE EASEMENTS, CONSTRUCTION EASEMENTS, ACCESS EASEMENTS, POWER LINE EASEMENTS AND RIGHT-OF-WAY NEEDED TO CONSTRUCT PROPOSED WELLS 20, 21, 22, 31, 32 AND 33 WITHIN 6 MONTHS OF OBTAINING ALL NECESSARY PERMITS. THE PERMITTEE SHALL CONSTRUCT, TEST AND CONNECT PROPOSED WELLS 20, 21, 22, 31, 32 AND 33 WITHIN ONE YEAR OF OBTAINING ALL THE NECESSARY PERMITS, WELL SITES AND EASEMENTS OR WITHIN TWO YEARS OF ISSUANCE OF THIS PERMIT WHICHEVER IS SOONER. THE DISTRICT FOR GOOD CAUSE MAY GRANT AN EXTENSION OF THE DEADLINES SPECIFIED IN THIS CONDITION 17. DELAYS CAUSED BY CIRCUMSTANCES BEYOND THE PERMITTEE'S CONTROL SHALL BE CONSIDERED GOOD CAUSE.
18. ONCE PERMITTEE HAS CONSTRUCTED, TESTED AND CONNECTED PROPOSED WELLS 20, 21, 22, 31, 32 AND 33, AS SPECIFIED IN CONDITION 17, IT SHALL NOT WITHDRAW WATER FROM WELLS 1, 2, 3, 4, 4A1, 8, 12A AND 12B IN EXCESS OF A COMBINED MAXIMUM DAILY FLOW OF 4 MGD.
19. IMMEDIATELY FOLLOWING THE CONNECTION OF ALL SIX NEW WESTERN WELLFIELD FLORIDAN AQUIFER WELLS INTO THE RAW WATER DISTRIBUTION SYSTEM, ANY FLORIDAN AQUIFER WELL IN THE EASTERN WELLFIELD WHICH HAS WATER QUALITY WHICH EXCEEDS 200 MG/L CHLORIDES, AT ANY TIME, MUST HAVE THE DAILY FLOW FROM THE WELL REDUCED TO PREVENT SALT WATER INTRUSION.

ANY EASTERN WELLFIELD FLORIDAN AQUIFER WELL WHOSE MONTHLY SAMPLING SHOWS THAT WATER QUALITY EXCEEDS 200 MG/L CHLORIDES, FOR MORE THAN THREE MONTHS DURING THAT YEAR, MUST BE PLACED ON STANDBY STATUS.

ONCE A WELL IS PLACED ON STANDBY STATUS, IF THE MONTHLY SAMPLING SHOWS THAT WATER QUALITY EXCEEDS 200 MG/L CHLORIDES, FOR MORE THAN THREE MONTHS DURING THAT YEAR, THE WELL MUST BE PLUGGED-BACK OR REHABILITATED TO IMPROVE WATER QUALITY.

IMMEDIATELY FOLLOWING THE CONNECTION OF ALL SIX NEW WESTERN WELLFIELD FLORIDAN AQUIFER WELLS INTO THE RAW WATER DISTRIBUTION SYSTEM, ANY FLORIDAN AQUIFER WELL IN THE EASTERN WELLFIELD WHOSE MONTHLY SAMPLING SHOWS THAT WATER QUALITY EXCEEDS 250 MG/L CHLORIDES, FOR TWO CONSECUTIVE PUMPING MONTHS, MUST BE TAKEN OUT-OF-SERVICE UNTIL THE WATER QUALITY REMAINS BELOW 200 MG/L CHLORIDES FOR A MINIMUM OF TWO CONSECUTIVE MONTHS. THE STATUS OF THE WELL MAY BE UPGRADED TO STANDBY STATUS AFTER THE WATER QUALITY HAS REMAINED BELOW

200 MG/L CHLORIDES FOR TWO CONSECUTIVE MONTHS. IF MONTHLY SAMPLING SHOWS THAT CHLORIDE CONCENTRATIONS IN ANY FLORIDAN AQUIFER WELL IN THE EASTERN WELLFIELD EXCEED 250 MG/L CHLORIDES FOR TWO CONSECUTIVE PUMPING MONTHS AFTER THE WELL HAD ALREADY BEEN TAKEN OUT-OF-SERVICE FOR THIS VERY SAME PROBLEM, THE WELL CAN NO LONGER BE USED FOR POTABLE SUPPLY.

(IF, FOR EXAMPLE, A WELL IS PUMPED AT SOME TIME DURING JANUARY, HAS NOT BEEN PUMPED DURING FEBRUARY, AND IS PUMPED AGAIN IN MARCH, JANUARY AND MARCH SHALL BE TERMED "CONSECUTIVE PUMPING MONTHS.")

20. WITHIN 3 YEARS OF ISSUANCE OF THIS PERMIT, THE WITHDRAWAL OF WATER FROM FLORIDAN AQUIFER WELLS IN THE EASTERN WELLFIELD WILL BE LIMITED TO A COMBINED ANNUAL AVERAGE DAILY FLOW OF 5.20 MGD AND A COMBINED MAXIMUM DAILY FLOW OF 8.20 MGD.
21. ALL NEW WELLS CONSTRUCTED INTO THE FLORIDAN AQUIFER WITHIN THE EASTERN WELLFIELD MUST BE COMPLETED INTO THE TOP 150 FEET OF THE FLORIDAN AQUIFER UNLESS IT IS DEMONSTRATED THAT A DEEPER COMPLETION WILL RESULT IN A RELIABLE SOURCE OF WATER WITH CHLORIDE CONCENTRATIONS LESS THAN 200 MG/L. IF A WELL EXCEEDS 200 MG/L DURING DRILLING OR DEVELOPMENT, THE WELL MUST BE MODIFIED OR ABANDONED.
22. PERMITTEE MUST DEVELOP, SUBMIT TO THE DISTRICT, AND IMPLEMENT A WELLFIELD OPERATION PROGRAM. THE WELLFIELD OPERATION PROGRAM MUST BE SENT TO THE DISTRICT ONCE ALL PROPOSED FLORIDAN AQUIFER AND INTERMEDIATE AQUIFER WELLS ARE CONSTRUCTED AND IN OPERATION. THE PROGRAM MUST IDENTIFY WHICH WELLS ARE PRIMARY, SECONDARY, STANDBY (RESERVE WELLS USED ONLY DURING MAINTENANCE/REPAIR OF PRIMARY OR SECONDARY WELLS), THE ORDER OF PREFERENCE IN TURNING ON WELLS, CRITERIA FOR SHUTTING DOWN AND RESTARTING WELLS, AND ANY OTHER ASPECT OF WELLFIELD MANAGEMENT AND OPERATION. THE PROGRAM MUST SHOW THAT THE WESTERN WELLFIELD FLORIDAN AQUIFER WELLS WILL NOT PUMP MORE THAN 2.07 MGD EACH ON AN AVERAGE ANNUAL BASIS AND THE EASTERN WELLFIELD FLORIDAN AQUIFER WELLS WILL NOT PUMP MORE THAN 5.20 MGD ON A COMBINED AVERAGE ANNUAL BASIS.
23. THE FOLLOWING WELLS SHALL BE MONITORED SEMI-ANNUALLY TO DETERMINE EFFECTS OF WITHDRAWAL ON AREA WATER QUALITY. WATER QUALITY SAMPLES MUST BE TAKEN AFTER THE WELL HAS BEEN PUMPING FOR A MINIMUM OF 30 MINUTES.

A. SUPPLY WELLS

- | | |
|---------------|----------------|
| (1) COCOA 2 | (9) COCOA 11 |
| (2) COCOA 3 | (10) COCOA 12B |
| (3) COCOA 4 | (11) COCOA 14 |
| (4) COCOA 4A1 | (12) COCOA 15 |
| (5) COCOA 7 | (13) COCOA 17 |
| (6) COCOA 8 | (14) COCOA 39 |
| (7) COCOA 9 | (15) COCOA 41 |
| (8) COCOA 10 | (16) COCOA 44 |

B. SALINITY MONITOR WELL C

- | | |
|------------|------------|
| (1) ZONE 1 | (3) ZONE 4 |
| (2) ZONE 3 | (4) ZONE 5 |

C. HYDROLOGIC MONITOR WELLS (BENCHMARK WELLS)

- | | |
|-------------|-------------|
| (1) BITHLO | (3) COCOA A |
| (2) COCOA H | (4) COCOA D |

D. DEEP MONITOR WELLS

- | |
|-------------------------------|
| (1) EASTERN DEEP MONITOR WELL |
| (2) WESTERN DEEP MONITOR WELL |

THESE SAMPLES MUST BE ANALYZED BY AN HRS CERTIFIED LABORATORY FOR THE FOLLOWING PARAMETERS:

CHLORIDES	TOTAL IRON
SULFATE	TOTAL HARDNESS
CALCIUM	T.D.S.
MAGNESIUM	FIELD TEMPERATURE
SODIUM	SPECIFIC CONDUCTANCE
POTASSIUM	FIELD AND LABORATORY PH

CARBONATE - FIELD AND LAB

BI-CARBONATE - TOTAL ALKALINITY IF PH IS 6.9 OR LOWER

ALL MAJOR ION ANALYSES MUST BE CHECKED FOR ANION-CATION BALANCE AND MUST BALANCE WITHIN 5% PRIOR TO SUBMISSION. IT IS RECOMMENDED THAT DUPLICATES BE TAKEN TO ALLOW FOR LABORATORY PROBLEMS OR LOSS.

THE SAMPLE ANALYSES WILL BE SUBMITTED TO THE DISTRICT BY MAY 30 AND OCTOBER 30 OF EACH YEAR.

24. ALL PRODUCTION WELLS MUST BE SAMPLED AND ANALYZED FOR CHLORIDES ONCE PER MONTH. SAMPLES MUST BE COLLECTED AFTER THE WELLS HAVE BEEN PUMPING FOR A MINIMUM OF 30 MINUTES. COPIES OF THE MONTHLY WATER OPERATIONS REPORT WHICH INCLUDES HOURS EACH WELL WAS RUN, PEAK DISCHARGE PER WELL, AND CHLORIDE CONCENTRATION MUST BE SENT TO THE DISTRICT ON A MONTHLY BASIS. A SECTION MUST BE ADDED TO THE OPERATIONS REPORT STATING HOW MANY HOURS EACH WELL WAS OPERATING PRIOR TO CHLORIDE SAMPLING.
25. THE PERMITTEE MUST MAINTAIN RECORDS OF DAILY VOLUMES OF WATER INJECTED AND WITHDRAWN FROM THE AQUIFER STORAGE RECOVERY WELLS. THE RECORD MUST BE TABULATED AND SUBMITTED TO THE DISTRICT ON A MONTHLY BASIS.
26. PRIOR TO OPERATIONAL CONSUMPTIVE USE OF THE 5 NEW ASR WELLS, THE DISTRICT STAFF MUST RECEIVE A FINAL REPORT CONTAINING THE RESULTS OF THE CONSTRUCTION AND TESTING PROGRAM.
27. THE PERMITTEE MUST IMPLEMENT A RECLAIMED WATER SYSTEM FROM THE JERRY SELLERS WASTEWATER TREATMENT PLANT AND MUST REUSE AT LEAST THE FOLLOWING VOLUMES OF RECLAIMED WATER BY THE INDICATED YEAR:

1991	1994
.109 MGD	.300 MGD

Contract 021660

28. THE PERMITTEE MUST EVALUATE ANY IMPACT OF THE INTERMEDIATE AQUIFER WELLS ON WETLAND HYDROPERIOD AND VEGETATION WITHIN THE AREA OF POTENTIAL IMPACT. IF ADVERSE IMPACTS OCCUR, THE PERMITTEE MUST REDUCE WITHDRAWALS FROM THE INTERMEDIATE AQUIFER WELL(S) IN QUESTION AND/OR AUGMENT WETLAND WATER LEVELS TO RESTORE THE TYPE AND FUNCTION OF THE WETLAND(S). TO ACCOMPLISH THESE REQUIREMENTS, THE PERMITTEE MUST UNDERTAKE MONITORING, DATA COLLECTION, AND WATER AUGMENTATION AS IDENTIFIED BELOW AND DESCRIBED IN CONDITIONS 29 THROUGH 35:

- A. MONITOR WETLAND WATER LEVELS IN RELATION TO WETLAND FLOOR ELEVATION AND LOCALIZED RAINFALL PRIOR TO AND DURING INTERMEDIATE WELLFIELD OPERATION (CONDITIONS 29, 30, 32, 33).
 - B. SELECT "REFERENCE WETLANDS" TO USE AS BENCHMARK TO EVALUATE IMPACTS (CONDITION 31).
 - C. COLLECT HYDROGEOLOGIC DATA AND DETERMINE RECHARGE RATES FROM WETLANDS (CONDITION 34).
 - D. CONDUCT BASELINE VEGETATIVE MONITORING OF WETLANDS (CONDITION 35).
 - E. PERIODIC VEGETATIVE MONITORING OF WETLANDS IN THE AREA OF POTENTIAL IMPACT AND "REFERENCE" WETLANDS TO BE CONDUCTED AFTER PUMPING BEGINS (CONDITION 36).
 - F. CONDUCT QUANTITATIVE AND QUALITATIVE COMPARISONS BETWEEN WETLANDS IN THE AREA OF POTENTIAL IMPACT AND "REFERENCE WETLANDS" (CONDITION 37).
 - G. REDUCE PUMPING AND/OR AUGMENT WETLAND WATER LEVELS IN ACCORDANCE WITH DISTRICT STAFF APPROVED PLAN WHEN NECESSARY TO PREVENT ADVERSE IMPACTS (CONDITION 38).
29. THE PERMITTEE SHALL INSTALL A SHALLOW PIEZOMETER AND A STAFF GAUGE IN EACH OF THE WETLANDS DESCRIBED IN ATTACHMENT A AND IN THE APPROVED REFERENCE WETLANDS (CONDITION 31), TO MEASURE WATER LEVELS. ALL PIEZOMETERS AND STAFF GAUGES MUST BE REFERENCED TO NGVD DATUM BY A REGISTERED LAND SURVEYOR. PRIOR TO COLLECTION OF WATER LEVEL DATA, PERMITTEE MUST SUBMIT TO THE DISTRICT A SIGNED AND SEALED SURVEY BY THE REGISTERED LAND SURVEYOR, SHOWING THE LOCATION AND DATUM (NGVD) OF ALL SHALLOW PIEZOMETERS AND STAFF GAUGES.
30. THE PERMITTEE MUST SUBMIT SURVEYED CROSS SECTIONS OF THE WETLAND AREAS AS DESCRIBED IN ATTACHMENT A, SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR. THE SURVEY OF EACH WETLAND MUST INCLUDE THE CORRESPONDING ELEVATION OF EACH ZONE DOMINATED BY A DISTINCT VEGETATIVE TYPE OCCURRING IN THE WETLAND. THE CROSS SECTIONS MUST BE SUBMITTED TO THE DISTRICT WITH THE BASELINE VEGETATIVE MONITORING REPORT REQUIRED IN CONDITION 35.
31. THE PERMITTEE MUST SUBMIT FOR DISTRICT STAFF APPROVAL A MAP IDENTIFYING AT LEAST TWO "REFERENCE WETLANDS" TO BE UTILIZED DURING THE VEGETATIVE MONITORING PROGRAM. THERE SHALL BE AT LEAST ONE REFERENCE WETLAND FOR EACH OF THE FOLLOWING WETLAND TYPES: ISOLATED HERBACEOUS, AND CONTIGUOUS HERBACEOUS. THE FOLLOWING CRITERIA, AT A MINIMUM, MUST BE USED IN THE SELECTION OF THE "REFERENCE WETLANDS":
- A. THE REFERENCE WETLAND MUST HAVE SIMILAR SPECIES COMPOSITION COMPARED TO THAT IN THE WETLANDS DESCRIBED IN ATTACHMENT A;
 - B. THE REFERENCE WETLAND MUST HAVE SIMILAR SPECIES COVER PERCENTAGES COMPARED TO THAT IN THE WETLANDS DESCRIBED IN ATTACHMENT A;
 - C. THE REFERENCE WETLAND MUST HAVE SIMILAR DEPTH OF INUNDATION COMPARED TO THAT IN THE WETLANDS DESCRIBED IN ATTACHMENT A; AND
 - D. THE REFERENCE WETLAND MUST BE LOCATED BETWEEN 3/4 OF A MILE AND 5 MILES FROM THE INTERMEDIATE AQUIFER WELLS.

32. WITHIN 30 DAYS OF PERMIT ISSUANCE, THE PERMITTEE MUST INSTALL A RAIN GAUGE AT THE WEEWAMOTEE PUMP STATION TO RECORD DAILY RAINFALL TOTALS. DAILY RAINFALL DATA MUST BE COLLECTED FOR THE DURATION OF THIS PERMIT AND MUST BE SUBMITTED BY DECEMBER 31 OF EACH YEAR.
33. PERMITTEE MUST MEASURE AND RECORD, ON A WEEKLY INTERVAL, THE WATER LEVEL WITHIN EACH OF THE WETLANDS DELINEATED IN ATTACHMENT A AND THE APPROVED REFERENCED WETLANDS, FOR A MINIMUM OF ONE YEAR PRIOR TO OPERATION OF ANY INTERMEDIATE AQUIFER WELL OTHER THAN 2T, 3T AND 7T. THE PERMITTEE MUST SUBMIT AN ANNUAL HYDROLOGIC REPORT TO THE DISTRICT BY DECEMBER 31 OF EACH YEAR, INCLUDING ALL DATA FOR THE 12 MONTH PERIOD ENDING ON THE PREVIOUS OCTOBER 31.
34. IF AUGMENTATION OF WETLAND WATER LEVELS BECOMES NECESSARY, PERMITTEE MUST CALCULATE THE NET FLOW OF WATER (VOLUME/UNIT AREA) FROM THE SURFICIAL AQUIFER TO THE INTERMEDIATE AQUIFER BENEATH EACH WETLAND DELINEATED IN ATTACHMENT A. NET FLOW IS DEFINED AS THE DIFFERENCE IN FLOW OCCURRING UNDER EXISTING POTENTIOMETRIC AND SURFICIAL LEVELS AND THAT OCCURRING UNDER OPERATION OF THE PROPOSED INTERMEDIATE WELL FIELD. PERMITTEE MAY BASE ITS NET FLOW CALCULATIONS ON PARAMETERS ESTABLISHED IN PUMP TESTS FOR EACH NEW INTERMEDIATE AQUIFER WELL.
35. THE PERMITTEE MUST INITIATE BASELINE VEGETATIVE MONITORING PROGRAM OF THE WETLAND AREAS AS DESCRIBED IN ATTACHMENT A. THE BASELINE VEGETATIVE MONITORING PROGRAM MUST OCCUR A MINIMUM OF TWICE A YEAR: ONCE IN MARCH AND ONCE IN OCTOBER, FOR A MINIMUM OF ONE (1) YEAR PRIOR TO OPERATION OF ANY INTERMEDIATE AQUIFER WELL OTHER THAN 2T, 3T AND 7T. BASELINE VEGETATIVE MONITORING MUST CONSIST OF THE FOLLOWING INFORMATION, AT A MINIMUM, FOR EACH VEGETATIVE STRATUM:
- A. PERCENT COVER;
 - B. SPECIES DENSITIES;
 - C. SPECIES COMPOSITION;
 - D. STEM COUNTS;
 - E. DIAMETER OF CANOPY SPECIES AT BREAST HEIGHT;
 - F. BASAL COVERAGE OF GROUND COVER SPECIES;
 - G. SURVEYED LOCATION OF THE SAMPLING TRANSECTS; AND
 - H. PHOTOGRAPHS TAKEN AT SAMPLING POINTS.

BASELINE MONITORING INFORMATION MUST BE SUBMITTED TO THE DISTRICT, IN REPORT FORM, BY DECEMBER 31 FOR EACH YEAR THAT BASELINE MONITORING OCCURS.

36. THE PERMITTEE MUST CONDUCT A VEGETATIVE MONITORING PROGRAM WITH THE INITIATION OF WATER WITHDRAWAL FROM ANY OF THE INTERMEDIATE WELLS OTHER THAN 2T, 3T, AND 7T, FOR THOSE WETLAND AREAS DESCRIBED IN ATTACHMENT A AND THE RESPECTIVE "REFERENCE WETLANDS" (CONDITION 31). MONITORING MUST BE CONDUCTED AT A MINIMUM FREQUENCY OF TWICE A YEAR, ONCE IN MARCH AND ONCE IN OCTOBER. VEGETATIVE MONITORING MUST INCLUDE THE FOLLOWING INFORMATION, AT A MINIMUM, FOR EACH VEGETATIVE STRATUM:
- A. PERCENT COVER;
 - B. SPECIES DENSITY;
 - C. SPECIES COMPOSITION;
 - D. STEM COUNTS;
 - E. DIAMETER OF CANOPY SPECIES AT BREAST HEIGHT;
 - F. BASAL COVERAGE OF GROUND COVER SPECIES;
 - G. SURVEYED LOCATION OF PERMANENT SAMPLING TRANSECTS; AND
 - H. PHOTOGRAPHS TAKEN AT SAMPLING POINTS.

37. USING THE RESULTS OF THE WETLAND VEGETATIVE MONITORING (CONDITION 36), THE PERMITTEE MUST CONDUCT A WETLAND SIMILARITY ASSESSMENT TWICE EACH YEAR, COMPARING THE MONITORING RESULTS OF EACH WETLAND DESCRIBED IN ATTACHMENT A, WITH THE FOLLOWING:

- A. THE BASELINE VEGETATIVE MONITORING OF THE SAME WETLAND (CONDITION 35); AND
- B. THE MONITORING RESULTS OF THE CORRESPONDING "REFERENCE WETLANDS" (CONDITION 36), COLLECTED AT THE SAME TIME.

THE WETLAND SIMILARITY ASSESSMENTS MUST BE SUBMITTED TWICE EACH YEAR WITHIN 60 DAYS OF COMPLETION OF THE MARCH AND OCTOBER SAMPLING EVENTS. THESE ASSESSMENTS SHALL INCLUDE, IN REPORT FORM, THE DATA COLLECTED PURSUANT TO CONDITIONS 35 AND 36.

38. DISTRICT STAFF WILL REVIEW THE WETLAND SIMILARITY ASSESSMENTS AND WATER LEVEL MONITORING TO DETERMINE IF THE OPERATION OF ANY INTERMEDIATE WELL IS ADVERSELY AFFECTING ANY OF THE WETLANDS DESCRIBED IN ATTACHMENT A. UPON NOTIFICATION BY DISTRICT STAFF THAT WETLANDS ARE BEING HARMED, THE PERMITTEE MUST IMMEDIATELY STOP PUMPING FROM THE WELL(S) CAUSING ADVERSE IMPACTS UNTIL A PLAN FOR WATER LEVEL AUGMENTATION AND/OR REDUCED PUMPING IS STAFF APPROVED. OPERATION OF THESE WELL(S) MUST BE IN ACCORDANCE WITH THE APPROVED PLAN.
39. THIS PERMIT DOES NOT CONVEY ANY REAL PROPERTY RIGHTS TO THE PERMITTEE. ACQUISITION OF ANY PROPERTY RIGHTS NECESSARY TO IMPLEMENT THE CONSUMPTIVE USE, GRANTED BY THIS PERMIT, IS THE RESPONSIBILITY OF THE PERMITTEE.
40. THE CITY SHALL INSTALL FLOW METERS ON EACH OF THE NEW WELLS AND ON EACH OF THE EXISTING WELLS FOR WHICH THE PERMIT IS BEING RENEWED.
41. SOURCE CLASSIFICATION IS CONFINED OR SEMI-CONFINED AQUIFER.
42. USE CLASSIFICATION IS 39% HOUSEHOLD AND 61% COMMERCIAL/INDUSTRIAL.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO. 2-005-000510CMP

DATE ISSUED DECEMBER 12, 1990

A PERMIT AUTHORIZING:

THIS PERMIT AUTHORIZES THE USE OF GROUND WATER FROM THE FLORIDAN AQUIFER AND THE INTERMEDIATE AQUIFER FOR PUBLIC SUPPLY TO SERVE AN ESTIMATED POPULATION OF 154,453 PEOPLE IN 7 YEARS.

LOCATION:

SECTIONS 27 34 35 TOWNSHIP 23 SOUTH RANGE 32 EAST;
SECTIONS 2 4 5 6 7 10 13 14 18 23 26 35 19
TOWNSHIP 24 SOUTH RANGE 32 EAST;
SECTIONS 14 15 16 17 18 TOWNSHIP 24 SOUTH RANGE 33 EAST;
SECTION 20 TOWNSHIP 24 SOUTH RANGE 34 EAST

ISSUED TO: ORANGE COUNTY

(owner)

CITY OF COCOA
ATTN: WILLIAM H. STEPHENSON
P. O. BOX 1750
COCOA, FL 32922

Permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This Permit may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

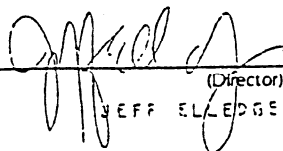
PERMIT IS CONDITIONED UPON:

SEE CONDITIONS ON ATTACHED "EXHIBIT A", DATED DECEMBER 12, 1990

AUTHORIZED BY: St. Johns River Water Management District

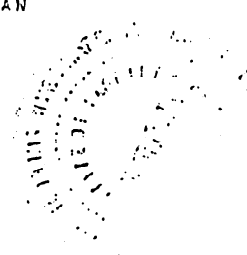
Department of Resource Management Governing Board

By:


(Director)
JEFF ELLEDGE

By:


(Assistant Secretary)
HENRY DEAN





WATER MANAGEMENT DISTRICT

Return to ESW
Carl Larabee

Henry Dean, Executive Director

John R. Wehle, Assistant Executive Director

POST OFFICE BOX 1429

PALATKA, FLORIDA 32178-1429

TELEPHONE 904/329-4500

SUNCOM 904/860-4500

FAX (EXECUTIVE/LEGAL) 329-4125

(PERMITTING) 329-4315

(ADMINISTRATION/FINANCE) 329-4508

FIELD STATIONS

616 E. South Street
Orlando, Florida 32801
407/894-6423

7775 Baymeadows Way
Suite 102
Jacksonville, Florida 32256
904/730-6270

PERMITTING:
305 East Drive
Melbourne, Florida 32904
407/964-4940

OPERATIONS:
2133 N. Wickham Road
Melbourne, Florida 32935-8109
407/254-1762

JULY 13, 1993

CITY OF COCOA
600 SCHOOL ST.
COCOA, FL 32922

1 IIII

SUBJECT: CONSUMPTIVE USE PERMIT NO. 2-097-002486

ENCLOSED IS YOUR PERMIT AND THE FORMS NECESSARY FOR SUBMITTING INFORMATION TO COMPLY WITH CONDITIONS OF THE PERMIT AS AUTHORIZED BY THE GOVERNING BOARD OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT ON JULY 13, 1993. ALSO ATTACHED IS FORM EN-1 WHICH IS USED TO INDICATE THE PERSON WHO WILL BE RESPONSIBLE FOR REPORTING YOUR COMPLIANCE INFORMATION. DESIGNATING ONE PERSON TO BE RESPONSIBLE FOR REPORTING THIS INFORMATION WILL SIMPLIFY THE COMPLIANCE PROCESS BY ALLOWING US TO CONTACT THE PERSON MOST FAMILIAR WITH THIS INFORMATION AND ENABLE US TO KEEP OUR FILES UP-TO-DATE FOR ANY FUTURE REFERENCE. PLEASE RETURN FORM EN-1 COMPLETED WITH YOUR FIRST REPORT TO THE DISTRICT. ALL COMPLIANCE INFORMATION MUST BE SUBMITTED TO THE DISTRICT'S PALATKA OFFICE, P.O. BOX 1429, PALATKA, FLORIDA 32178-1429.

PERMIT ISSUANCE DOES NOT RELIEVE YOU FROM THE RESPONSIBILITY OF OBTAINING PERMITS FROM ANY FEDERAL, STATE, AND/OR LOCAL AGENCIES ASSERTING CONCURRENT JURISDICTION FOR THIS WORK. THE ENCLOSED PERMIT WILL EXPIRE ON FEBRUARY 16, 2004.

IN THE EVENT YOU SELL YOUR PROPERTY, THE PERMIT WILL BE TRANSFERRED TO THE NEW OWNER IF WE ARE NOTIFIED BY YOU WITHIN THIRTY DAYS OF THE RECORDING OF THE SALE. PL AND LET US IN THIS MATTER SO AS TO MAINTAIN A VALID PERMIT FOR THE NEW PROPERTY OWNER.

THE PERMIT ENCLOSED IS A LEGAL DOCUMENT AND SHOULD BE KEPT WITH YOUR OTHER IMPORTANT DOCUMENTS. PLEASE READ THE PERMIT CAREFULLY SINCE YOU ARE RESPONSIBLE FOR COMPLIANCE WITH ANY PROVISOS WHICH ARE A PART OF THIS PERMIT. PROVIDO COMPLIANCE IS A LEGAL REQUIREMENT AND YOUR ASSISTANCE IN THIS MATTER WILL BE GREATLY APPRECIATED.

Joe E. Hill, CHAIRMAN
LEESBURG

Joseph D. Collins, VICE CHAIRMAN
JACKSONVILLE

Jesse J. Parrish, III, TREASURER
TITUSVILLE

Lenore N. McCullagh, SECRETARY
ORANGE PARK

Merritt C. Fore
OCALA

Ralph E. Simmons
FERNANDINA BEACH

Saundra H. Gray
DE BARY

Patricia T. Harden
SANFORD

James H. Williams
OCALA

CITY OF COCOA
PAGE TWO
JULY 13, 1993

ACCORDING TO CHAPTER 40C-2.401 AND SECTION 6.4 OF THE CONSUMPTIVE WATER USE HANDBOOK, A PERMANENT TAG IS ISSUED BY THE DISTRICT FOR WELL IDENTIFICATION. THIS TAG MUST BE PROMINENTLY DISPLAYED AT THE SITE OF WITHDRAWAL BY PERMANENTLY AFFIXING THE TAG TO THE PUMP, HEADGATE, VALVE, OR OTHER WITHDRAWAL FACILITY. FAILURE TO DISPLAY A WELL TAG SHALL CONSTITUTE VIOLATION OF A PERMIT CONDITION AND MAY, IF WILLFUL, BE GROUNDS FOR REVOCATION OF THE PERMIT. PLEASE REFER TO YOUR COPY OF 40C-2 IF YOU NEED FURTHER CLARIFICATION.

YOU WILL FIND ENCLOSED A COPY OF THE MAP SUBMITTED WITH YOUR APPLICATION, WITH EACH WELL'S LOCATION AND NUMBER IDENTIFIED. WHEN PLACING THE TAG ON THE WELL, REFER TO THIS MAP TO ENSURE PROPER WELL IDENTIFICATION.

IF YOU HAVE ANY QUESTIONS CONCERNING YOUR PERMIT COMPLIANCE INFORMATION, THE ATTACHED FORMS OR WELL TAGS, CONTACT ME AT 904-329-4274.

THANK YOU FOR YOUR INTEREST IN OUR WATER RESOURCES.

SINCERELY,

ROSIE PARKER, DATA CONTROL TECHNICIAN
DIVISION OF PERMIT DATA SERVICES

GR:LD

ENCLOSURES: PERMIT WITH COMPLIANCE FORMS
MAP
WELL TAG(S)

CC: DISTRICT PERMIT FILE
NAOMI WHITNEY

Exhibit “C”

SJRWMD

Consumptive Use Permit No.

2-097-0024NG

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Post Office Box 1429
Palatka, Florida 32078-1429

PERMIT NO. 2-097-0024NS DATE ISSUED JULY 13, 1993

CONSUMPTIVE USE
A PERMIT AUTHORIZING:

USE OF SURFACE WATER FROM TAYLOR CREEK RESERVOIR, INCLUDING THE
INJECTION OF WATER FROM THE RESERVOIR AND SUBSEQUENT WITHDRAWAL
FROM AN AQUIFER STORAGE AND RECOVERY SYSTEM, TO SUPPLY THE
ESTIMATED POPULATION WITHIN THE UTILITY SERVICE AREA IN 2004.

LOCATION:

SECTION 05, TOWNSHIP 25 SOUTH, RANGE 34 EAST
ORANGE COUNTY
TAYLOR CREEK RESERVOIR

ISSUED TO:
(owner)

CITY OF COCOA
600 SCHOOL STREET
COCOA, FL 32922

Permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, of liabilities which may arise from permit issuance. Said application, including all plans and specifications thereto, is by reference made a part hereof.

This permit does not convey to permittee any property rights nor
relieve the permittee from complying with any laws.
All structures and works installed

THE



"EXHIBIT 4"

CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 2-097-0024NG

CITY OF COCOA

DATED JULY 13, 1993

1. DISTRICT AUTHORIZED STAFF, UPON PROPER IDENTIFICATION, WILL HAVE PERMISSION TO ENTER, INSPECT AND OBSERVE PERMITTED AND RELATED FACILITIES IN ORDER TO DETERMINE COMPLIANCE WITH THE APPROVED PLANS, SPECIFICATIONS AND CONDITIONS OF THIS PERMIT.
2. NOTHING IN THIS PERMIT SHOULD BE CONSTRUED TO LIMIT THE AUTHORITY OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT TO DECLARE A WATER SHORTAGE AND ISSUE ORDERS PURSUANT TO SECTION 373.175, FLORIDA STATUTES, OR TO FORMULATE A PLAN FOR IMPLEMENTATION DURING PERIODS OF WATER SHORTAGE, PURSUANT TO SECTION 373.246, FLORIDA STATUTES. IN THE EVENT A WATER SHORTAGE IS DECLARED BY THE DISTRICT GOVERNING BOARD, THE PERMITTEE MUST ADHERE TO THE WATER SHORTAGE RESTRICTIONS, AS SPECIFIED BY THE DISTRICT, EVEN THOUGH THE SPECIFIED WATER SHORTAGE RESTRICTIONS MAY BE INCONSISTENT WITH THE TERMS AND CONDITIONS OF THIS PERMIT.
3. PRIOR TO THE CONSTRUCTION, MODIFICATION, OR ABANDONMENT OF A WELL, THE PERMITTEE MUST OBTAIN A WATER WELL PERMIT FROM THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT OR THE APPROPRIATE LOCAL GOVERNMENT PURSUANT TO CHAPTER 400-3, FLORIDA ADMINISTRATIVE CODE. CONSTRUCTION, MODIFICATION OR ABANDONMENT OF A WELL WILL REQUIRE MODIFICATION OF THE CONSUMPTIVE USE PERMIT WHEN SUCH CONSTRUCTION, MODIFICATION OR ABANDONMENT IS OTHER THAN THAT SPECIFIED AND DESCRIBED ON THE CONSUMPTIVE USE PERMIT APPLICATION FORM.
4. LEAKING OR INOPERATIVE WELL CASTINGS, VALVES, OR CONTROLS MUST BE REPAIRED OR REPLACED AS REQUIRED TO ELIMINATE THE LEAK OR MAKE THE SYSTEM FULLY OPERATIONAL.
5. LEGAL USES OF WATER EXISTING AT THE TIME OF PERMIT APPLICATION MAY NOT BE SIGNIFICANTLY ADVERSELY IMPACTED BY THE CONSUMPTIVE USE. IF UNANTICIPATED SIGNIFICANT ADVERSE IMPACTS OCCUR, THE DISTRICT SHALL REVOKE THE PERMIT IN WHOLE OR IN PART TO CURTAIL OR ABATE THE ADVERSE IMPACTS, UNLESS THE IMPACTS CAN BE MITIGATED BY THE PERMITTEE.
6. OFF-SITE LAND USES EXISTING AT THE TIME OF PERMIT APPLICATION MAY NOT BE SIGNIFICANTLY ADVERSELY IMPACTED AS A RESULT OF THE CONSUMPTIVE USE. IF UNANTICIPATED SIGNIFICANT ADVERSE IMPACTS OCCUR, THE DISTRICT SHALL REVOKE THE PERMIT IN WHOLE OR IN PART, TO CURTAIL OR ABATE THE ADVERSE IMPACTS, UNLESS THE IMPACTS CAN BE MITIGATED BY THE PERMITTEE.

7. THE DISTRICT MUST BE NOTIFIED, IN WRITING, WITHIN 30 DAYS OF ANY SALE, CONVEYANCE, OR OTHER TRANSFER OF A WELL OR FACILITY FROM WHICH THE PERMITTED CONSUMPTIVE USE IS MADE OR WITHIN 30 DAYS OF ANY TRANSFER OF OWNERSHIP OR CONTROL OF THE REAL PROPERTY AT WHICH THE PERMITTED CONSUMPTIVE USE IS LOCATED. ALL TRANSFERS OF OWNERSHIP OR TRANSFERS OF PERMITS ARE SUBJECT TO THE PROVISIONS OF SECTION 40C-1.512, FLORIDA ADMINISTRATIVE CODE.
8. A DISTRICT-ISSUED IDENTIFICATION TAG SHALL BE PROMINENTLY DISPLAYED AT EACH WITHDRAWAL SITE BY PERMANENTLY AFFIXING SUCH TAG TO THE PUMP, HEADGATE, VALVE OR OTHER WITHDRAWAL FACILITY AS PROVIDED BY SECTION 40C-2.401, FLORIDA ADMINISTRATIVE CODE. PERMITTEE SHALL NOTIFY THE DISTRICT IN THE EVENT THAT A REPLACEMENT TAG IS NEEDED.
9. IF THE PERMITTEE DOES NOT SERVE A NEW PROJECTED DEMAND LOCATED WITHIN THE SERVICE AREA UPON WHICH THE ANNUAL ALLOCATION WAS CALCULATED, THE ANNUAL ALLOCATION WILL BE SUBJECT TO MODIFICATION.
10. ON THE TENTH DAY FOLLOWING THE MONTH OF RECORD, PERMITTEE MUST SUBMIT TO THE DISTRICT COPIES OF THE DER MONTHLY WATER TREATMENT PLANT REPORTS ON A MONTHLY BASIS FOLLOWING THE MONTH OF RECORD. THE PERMIT NUMBER MUST BE ATTACHED TO ALL REPORTS.
11. THIS PERMIT WILL EXPIRE FEBRUARY 19, 2004.
12. MAXIMUM ANNUAL SURFACE WATER WITHDRAWALS FOR PUBLIC SUPPLY FROM TAYLOR CREEK RESERVOIR (RESERVOIR) MUST NOT EXCEED:

365.0 MGAL IN 1996 (1.0 MGD)

730.0 MGAL IN 1997 (2.0 MGD)

3.29 MGAL IN 1998 THROUGH 2004 (9.0 MGD)

PRIOR TO 1996, AVERAGE DAILY WITHDRAWALS FROM THE RESERVOIR FOR THE PILOT TESTING PROGRAM MUST NOT EXCEED .100 MGAL WITH A MAXIMUM DAILY WITHDRAWAL NOT TO EXCEED .200 MGAL.

IF THE PERMITTEE IS UNABLE TO ACQUIRE THE PROPERTY RIGHTS NECESSARY TO IMPLEMENT THE CONSUMPTIVE USE OF WATER FROM WELLS 30, 31 OR 32, AS SPECIFIED IN CUP NO. 2-095-0005USMR, MAXIMUM ANNUAL SURFACE WATER WITHDRAWALS FOR PUBLIC SUPPLY IN 1998 THROUGH 2004 MAY EXCEED 3.29 MGAL (9.0 MGD) BY UP TO 0.36 MGAL (1.0 MGD) FOR EACH 1.0 MGD AVERAGE DAY CAPACITY THAT THE PERMITTEE IS UNABLE TO IMPLEMENT, BUT NOT TO EXCEED

4.38 BGAL (12.0 MGD), SUBJECT TO THE MAXIMUM ANNUAL WITHDRAWAL AUTHORIZED UNDER CUP NO. 2-095-0005UGMR, BEING REDUCED BY AN EQUAL AMOUNT.

THE PERMITTEE MAY WITHDRAW IN EXCESS OF THE MAXIMUM ANNUAL SURFACE WATER WITHDRAWALS ALLOCATED ABOVE FOR PUBLIC SUPPLY, DURING THE PERIOD 1996 THROUGH 2004 TO PROVIDE STORAGE IN THE AQUIFER STORAGE AND RECOVERY (ASR) SYSTEM. THE TOTAL VOLUME OF WATER STORED IN THE ASR SYSTEM, AT ANY GIVEN TIME, MUST NOT EXCEED 4.70 BGAL.

13. THIS PERMIT AUTHORIZES THE INJECTION OF TREATED SURFACE WATER FROM THE RESERVOIR INTO SIX EXISTING AND FOUR NEW ASR WELLS. MAXIMUM DAILY SURFACE WATER WITHDRAWALS FOR STORAGE IN THE ASR SYSTEM MUST NOT EXCEED 12 MGD. MAXIMUM DAILY SURFACE WATER WITHDRAWALS FOR THE COMBINED PUBLIC SUPPLY AND STORAGE PURPOSES MUST NOT EXCEED 19 MGD.
14. PRIOR TO INITIATION OF USE, ALL SURFACE WATER WITHDRAWAL POINTS MUST BE EQUIPPED WITH TOTALIZING FLOW METERS. SUCH METERS MUST HAVE AND MAINTAIN AN ACCURACY TO WITHIN 95 PERCENT OF THE ACTUAL FLOW; MUST BE VERIFIABLE; AND MUST BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
15. THE PERMITTEE MUST MAINTAIN AND OPERATE THE REQUIRED FLOW METER(S). IN CASE OF FAILURE OR BREAKDOWN OF ANY METER, THE DISTRICT MUST BE NOTIFIED IN WRITING WITHIN 5 DAYS OF ITS DISCOVERY. A DEFECTIVE METER MUST BE REPAIRED OR REPLACED WITHIN 30 DAYS OF ITS DISCOVERY.
16. THE PERMITTEE MUST HAVE THE REQUIRED FLOW METER(S) CALIBRATED ONCE EVERY 3 YEARS WITHIN 30 DAYS OF THE ANNIVERSARY DATE OF PERMIT ISSUANCE, AND RECALIBRATED IF THE DIFFERENCE BETWEEN THE ACTUAL FLOW AND THE METER READING IS GREATER THAN 5%. VERIFICATION OF THE INSPECTION/CALIBRATION MUST BE SUBMITTED TO THE DISTRICT USING FORM EN-51 WITHIN 10 DAYS OF INSPECTION/ CALIBRATION.
17. DAILY WITHDRAWAL AMOUNTS FROM TAYLOR CREEK RESERVOIR AND DAILY INJECTION AMOUNTS INTO AND WITHDRAWALS OUT OF THE ASR SYSTEM MUST BE RECORDED ON A CONTINUOUS BASIS, TOTALLED MONTHLY, AND REPORTED TO THE DISTRICT USING FORM EN-50 AT LEAST EVERY MONTH FROM THE INITIATION OF THE USE. THE PERMITTEE MUST ALSO INCLUDE IN THE MONTHLY REPORTING, THE TOTAL VOLUME STORED IN THE ASR SYSTEM.
18. PERMITTEE MUST IMPLEMENT THE WATER CONSERVATION PLAN ENTITLED "STRATEGIC PLAN FOR WATER SAVING AND CONSERVATION" AS AMENDED, IN ACCORDANCE WITH THE SCHEDULE CONTAINED THEREIN.

19. UPDATED WATER CONSERVATION PLANS IN ACCORDANCE WITH APPLICABLE PROVISIONS IN SECTION 12.0, APPLICANT'S HANDBOOK, MUST BE SUBMITTED BY THE PERMITTEE FOR ITS ENTIRE SERVICE AREA WITH THE APPLICATION FOR RENEWAL OF CUP NO. 2-095-0005UGMR.
20. WITHIN 120 DAYS OF INITIATING OPERATION OF THE NEW ASR WELL, NORTH OF THE DYAL WATER TREATMENT PLANT, THE DISTRICT STAFF MUST RECEIVE THE FINAL RULE 17-28, FLORIDA ADMINISTRATIVE CODE (F.A.C.), REPORT CONTAINING THE RESULTS OF THE CONSTRUCTION AND TESTING PROGRAM.
21. AS PROPOSED IN THE APPLICATION, THE PERMITTEE SHALL NOT WITHDRAW ANY WATER FROM TAYLOR CREEK RESERVOIR WHEN THE WATER LEVEL IN THE RESERVOIR IS BELOW 39.0 FT NGVD, EXCEPT IN THE EVENT THAT THE U.S. ARMY CORPS OF ENGINEERS (CORPS) ADOPTS A DEVIATION FROM THE NORMAL REGULATION SCHEDULE, REQUIRING DISCHARGE FROM STRUCTURE S-164 FOR THE PURPOSE OF LOWERING THE RESERVOIR WATER LEVEL BELOW ELEVATION 39.0 FT. NGVD FOR TEMPORARY DRAWDOWN. IN THIS EVENT, WITHDRAWALS WITHIN THE AMOUNTS ESTABLISHED IN CONDITION NO. 12 MAY OCCUR BELOW ELEVATION 39.0 FT. NGVD WHEN THE RESERVOIR WATER LEVEL IS ABOVE THE APPROVED DRAWDOWN REGULATION SCHEDULE.
22. IN THE EVENT THAT THE DISCHARGE REGULATION SCHEDULE FOR STRUCTURE S-164 IS MODIFIED BY THE CORPS, THE PERMITTEE WILL BE REQUIRED TO MODIFY THIS PERMIT AND TO DEMONSTRATE THAT THE CONTINUED WITHDRAWAL OF WATER FROM THE RESERVOIR, WHEN OPERATED IN ACCORDANCE WITH THE NEW DISCHARGE REGULATION SCHEDULE, WILL BE CONSISTENT WITH CHAPTER 40C-2 F.A.C., EXCEPT THAT PERMIT MODIFICATION WILL NOT BE REQUIRED FOR MODIFICATIONS IN THE REGULATION SCHEDULE FOR TEMPORARY RESERVOIR DRAWDOWN. THE PERMITTEE MUST APPLY FOR ANY REQUIRED PERMIT MODIFICATION WITHIN 60 DAYS OF RECEIVING WRITTEN NOTIFICATION FROM THE DISTRICT THAT THE REGULATION SCHEDULE HAS BEEN MODIFIED.
23. THE PERMITTED WITHDRAWALS HEREIN SHALL BE SUBJECT TO MINIMUM FLOWS OR LEVELS FOR TAYLOR CREEK RESERVOIR OR TAYLOR CREEK WHEN ADOPTED BY THE DISTRICT GOVERNING BOARD.
24. WITHIN 60 DAYS FOLLOWING PERMIT APPROVAL, THE PERMITTEE MUST SUBMIT FOR DISTRICT STAFF APPROVAL A MAP IDENTIFYING:
 - A. TRANSECT LOCATIONS ACROSS THE JIM CREEK FLOODPLAIN WETLANDS LOCATED WITHIN THE BOUNDARIES OF THE TOSAHATCHEE STATE RESERVE TO BE USED AS REFERENCE WETLANDS IN THE REQUIRED VEGETATIVE MONITORING PROGRAM (CONDITIONS 28 & 32). THE FOLLOWING CRITERIA, AT A MINIMUM, MUST BE USED IN SELECTION OF REFERENCE WETLANDS:

- 1) THE REFERENCE WETLANDS MUST BE A FORESTED PALUSTRINE SYSTEM;
 - 2) THE REFERENCE WETLANDS MUST HAVE THE SAME VEGETATIVE SPECIES COMPOSITION AS IDENTIFIED IN THE TAYLOR CREEK FLOODPLAIN UPSTREAM OF TRANSECT NO. 4 (AS IDENTIFIED IN CORRESPONDENCE RECEIVED BY THE DISTRICT FROM CHZN HILL ON SEPTEMBER 28, 1990);
 - 3) THE REFERENCE WETLANDS MUST BE LOCATED UPSTREAM OF THE LIMITS OF THE ST. JOHNS RIVER'S INFLUENCE ON THE EXISTING HYDROLOGY OF THE JIM CREEK FLOODPLAIN.
25. WITHIN 60 DAYS FOLLOWING PERMIT APPROVAL, THE PERMITTEE MUST SUBMIT FOR DISTRICT STAFF APPROVAL, THE FOLLOWING INFORMATION TO ESTABLISH A MONITORING PROGRAM FOR HAND FERNS (*OPHIOGLOSSUM PALMATUM*):
- A. A MAP IDENTIFYING THE PROPOSED LOCATIONS OF TRANSECTS FOR MONITORING OF HAND FERNS WITHIN THE TAYLOR CREEK FLOODPLAIN. A MINIMUM OF 5 TRANSECTS MUST BE LOCATED IN THE TAYLOR CREEK FLOODPLAIN WETLANDS DOWNSTREAM OF THE RESERVOIR.
 - B. A MAP IDENTIFYING THE PROPOSED LOCATION OF TRANSECTS FOR MONITORING OF HAND FERNS AT REFERENCE LOCATIONS. THE FOLLOWING CRITERIA, AT A MINIMUM, MUST BE USED IN THE SELECTION OF THE TRANSECTS FOR THE REFERENCE PLANT MONITORING:
 - 1) THE REFERENCE HAND FERN COMMUNITIES MUST BE LOCATED WITHIN PLANT COMMUNITIES SIMILAR TO THOSE IN WHICH HAND FERN COMMUNITIES ARE LOCATED IN THE TAYLOR CREEK FLOODPLAIN;
 - 2) THE REFERENCE HAND FERN COMMUNITIES MUST HAVE THE SAME VEGETATIVE SPECIES COMPOSITION AS THOSE WITHIN THE TAYLOR CREEK FLOODPLAIN WETLANDS;
 - 3) THE REFERENCE HAND FERN COMMUNITIES MUST BE LOCATED OUTSIDE OF THE TAYLOR CREEK FLOODPLAIN WETLANDS, IN AREAS WHERE THE HYDROLOGY IS OUTSIDE THE INFLUENCE OF THE ST. JOHNS RIVER.
 - C. A DETAILED METHODOLOGY, INCLUDING SAMPLING PROTOCOL AND ANALYSIS TO BE USED TO MONITOR HAND FERN COMMUNITIES IN EACH TRANSECT.
26. WITHIN 60 DAYS FOLLOWING PERMIT APPROVAL, THE PERMITTEE MUST SUBMIT A HYDROLOGIC MONITORING PLAN FOR THE FLOODPLAIN WETLANDS OF TAYLOR CREEK DOWNSTREAM OF THE RESERVOIR. THE PLAN MUST PROVIDE FOR MONITORING OF WATER ELEVATIONS ALONG A

5 veg. + ha
Taylor

2 vegetative
Jim Creek
2 head form
Jim Creek

MINIMUM OF THREE TRANSECTS WITHIN THE FLOODPLAIN, GENERALLY TO BE LOCATED IN THE UPPER, MIDDLE, AND LOWER PORTION OF THE FLOODPLAIN BETWEEN THE RESERVOIR AND THE ST. JOHNS RIVER. THE PLAN MUST BE APPROVED BY DISTRICT STAFF IN WRITING PRIOR TO INSTALLING ANY DATA COLLECTION STATION IN ANY OF THE TRANSECTS. THE PLAN MUST INCLUDE THE FOLLOWING INFORMATION:

- A. LOCATION OF TRANSECTS TO BE MONITORED;
- B. TYPE AND LOCATION OF PROPOSED WATER LEVEL MONITORING STATIONS, INCLUDING CONTINUOUS WATER LEVEL RECORDERS AT THE CHANNEL OF TAYLOR CREEK, SUFFICIENT IN NUMBER AND LOCATION TO CHARACTERIZE SURFACE AND GROUNDWATER ELEVATIONS ACROSS THE MONITORING TRANSECTS;
- C. PLAN FOR THE COLLECTION OF DATA, ANALYSIS AND REPORTING FOR EACH STATION. WATER LEVEL DATA COLLECTION MUST OCCUR MONTHLY FOR DATA COLLECTION STATIONS NOT EQUIPPED WITH CONTINUOUS RECORDERS.

27. WITHIN 60 DAYS OF OBTAINING WRITTEN APPROVAL OF THE PROPOSED VEGETATIVE MONITORING TRANSECT MAP(S) (CONDITION 24), THE HAND FERN TRANSECT MAP(S) (CONDITION 25), AND THE HYDROLOGIC MONITORING PLAN (CONDITION 26), THE PERMITTEE MUST SUBMIT TWO SURVEYS, SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR, FOR THE FOLLOWING:

- A. VEGETATIVE MONITORING REFERENCE TRANSECTS SHOWN ON THE APPROVED MAP(S) REQUIRED BY CONDITION 24;
- B. TAYLOR CREEK FLOODPLAIN VEGETATIVE TRANSECTS, DENOTED AS TRANSECT NUMBERS 5 THROUGH 9, IN CORRESPONDENCE RECEIVED BY THE DISTRICT FROM CHEM HILL ON SEPTEMBER 28, 1990;
- C. TAYLOR CREEK RESERVOIR VEGETATIVE TRANSECTS AS DELINEATED IN CORRESPONDENCE RECEIVED BY THE DISTRICT FROM CHEM HILL ON JULY 10, 1991;
- D. HAND FERN AND REFERENCE HAND FERN TRANSECTS AS SHOWN ON THE APPROVED MAP REQUIRED BY CONDITION 25;
- E. LOCATION AND NGVD DATUM OF ALL HYDROLOGIC DATA COLLECTION STATIONS REQUIRED BY CONDITION 26;

THESE SURVEYS MUST BE SUFFICIENT IN DETAIL AND SCOPE TO ALLOW ALL TRANSECTS AND HYDROLOGIC DATA COLLECTION STATIONS TO BE LOCATED ON THE GROUND.

28. THE PERMITTEE MUST INITIATE A BASELINE WETLAND VEGETATIVE MONITORING PROGRAM OF THE TAYLOR CREEK FLOODPLAIN WETLANDS DOWNSTREAM OF THE RESERVOIR, WETLANDS WITHIN AND CONTIGUOUS WITH THE RESERVOIR, AND CORRESPONDING REFERENCE WETLANDS

CH2M Hill on September 28, 1990;

- c. Taylor Creek reservoir vegetative transects as delineated in correspondence received by the District from CH2M Hill on July 10, 1991;
- d. hand fern and reference hand fern transects as shown on the approved map required by condition 25;
- e. location and NGVD datum of all hydrologic data collection stations required by condition 26;

These surveys must be sufficient in detail and scope to allow all transects and hydrologic data collection stations to be located on the ground.

28. The permittee must initiate a baseline wetland vegetative monitoring program of the Taylor Creek floodplain wetlands downstream of the reservoir, wetlands within and contiguous with the reservoir, and corresponding reference wetlands for the vegetative transects identified on the District approved maps as set forth in condition 24 and the corresponding vegetative transect surveys as set forth in condition 27.

The wetland vegetative monitoring must be conducted a minimum of three times a year (March, June & September) for non-woody vegetation and once a year at the end of the growing season (September) for woody vegetation, for a minimum of three years prior to initiation of withdrawals from the reservoir. The pre-1996 withdrawals authorized pursuant to condition 12 for pilot testing shall not be considered withdrawals from the reservoir for purposes of this condition. Baseline monitoring information must consist of the following information, at a minimum, for each vegetative stratum:

- a. percent total cover;
- b. species composition and density;
- c. diameter of canopy species at breast height;
- d. percent total coverage of groundcover species;
and
- e. photographs taken at sampling points.

Baseline wetland vegetative monitoring information, including copies of all data sheets, must be submitted to the District and to the Florida Department of Natural Resources Division of Recreation and Parks

(FDNR/DRP) District 6 Office, in report form (2 copies), by December 31 for each year that baseline monitoring occurs.

29. The permittee must obtain updated false color infrared photographs of the reservoir and contiguous wetlands on an annual basis, beginning concurrent with the corresponding baseline monitoring program and continuing throughout the duration of the permit. Based on this photography, a map must be made on an annual basis of the wetland communities within and contiguous with the reservoir, including the acreage of each wetland community within and contiguous to the reservoir. The photography and acreage information (2 copies) must be submitted to the District by December 31st of each year.
30. The permittee must initiate a baseline monitoring program for all hand fern transects and corresponding reference transects as identified for monitoring in the District approved maps as set forth in condition 25 and the corresponding transect surveys as set forth in condition 27. The vegetative monitoring program must occur a minimum of three times a year (March, June & September), for a minimum of three years prior to initiation of withdrawals from the reservoir. The pre-1996 withdrawals authorized pursuant to condition 12 for pilot testing shall not be considered withdrawals from the reservoir for purposes of this condition. Baseline monitoring must be consistent with the approved sampling methodology (condition 25) and provide the following information, at a minimum:
 - a. percent total cover; —
 - b. relative cover percentage;
 - c. growth measurement by acceptable methodologies;
 - d. species importance values (i.e., frequency, density, basal area, etc., used in the calculation of the percentage cover and relative cover percentage); and
 - e. photographs taken at the sampling points.

Hand fern baseline monitoring information, including copies of all data sheets, must be submitted to the District and to the FDNR/DRP District 6 Office, in report form (2 copies), by December 31 for each year that baseline monitoring occurs.

31. Hydrologic monitoring must be collected in accordance with the approved hydrologic monitoring plan for a

THREE TIMES A YEAR (MARCH, JUNE & SEPTEMBER), FOR A MINIMUM OF THREE YEARS PRIOR TO INITIATION OF WITHDRAWALS FROM THE RESERVOIR. THE PRE-1996 WITHDRAWALS AUTHORIZED PURSUANT TO CONDITION 12 FOR PILOT TESTING SHALL NOT BE CONSIDERED WITHDRAWALS FROM THE RESERVOIR FOR PURPOSES OF THIS CONDITION. BASELINE MONITORING MUST BE CONSISTENT WITH THE APPROVED SAMPLING METHODOLOGY (CONDITION 25) AND PROVIDE THE FOLLOWING INFORMATION, AT A MINIMUM:

- A. PERCENT TOTAL COVER;
- B. RELATIVE COVER PERCENTAGES;
- C. GROWTH MEASUREMENT BY ACCEPTABLE METHODOLOGIES;
- D. SPECIES IMPORTANCE VALUES (I.E., FREQUENCY, DENSITY, BASAL AREA, ETC., USED IN THE CALCULATION OF THE PERCENTAGE COVER AND RELATIVE COVER PERCENTAGE); AND
- E. PHOTOGRAPHS TAKEN AT THE SAMPLING POINTS.

HAND FERN BASELINE MONITORING INFORMATION, INCLUDING COPIES OF ALL DATA SHEETS, MUST BE SUBMITTED TO THE DISTRICT AND TO THE FDNR/DRP DISTRICT 6 OFFICE, IN REPORT FORM (2 COPIES), BY DECEMBER 31 FOR EACH YEAR THAT BASELINE MONITORING OCCURS.

- 31. HYDROLOGIC MONITORING MUST BE COLLECTED IN ACCORDANCE WITH THE APPROVED HYDROLOGIC MONITORING PLAN FOR A MINIMUM OF THREE (3) YEARS PRIOR TO INITIATION OF WITHDRAWALS FROM THE RESERVOIR. THE PRE-1996 WITHDRAWALS AUTHORIZED PURSUANT TO CONDITION 12 FOR PILOT TESTING SHALL NOT BE CONSIDERED WITHDRAWALS FOR THE PURPOSE OF THIS CONDITION. AFTER THE INITIATION OF WITHDRAWALS FROM THE RESERVOIR, HYDROLOGIC MONITORING MUST OCCUR IN ACCORDANCE WITH THE APPROVED PLAN FOR THE DURATION OF THE PERMIT. HYDROLOGIC MONITORING REPORTS (2 COPIES), INCLUDING COPIES OF ALL DATA SHEETS, MUST BE SUBMITTED TO THE DISTRICT AND TO THE FDNR/DRP DISTRICT 6 OFFICE BY DECEMBER 31 EACH YEAR.
- 32. UPON INITIATION OF WITHDRAWALS FROM THE RESERVOIR AND CONTINUING FOR THE DURATION OF THE PERMIT, THE PERMITTEE MUST CONDUCT A WETLAND VEGETATIVE MONITORING PROGRAM FOR THE TAYLOR CREEK FLOODPLAIN WETLANDS DOWNSTREAM OF THE RESERVOIR, WETLANDS WITHIN AND CONTIGUOUS WITH THE RESERVOIR, AND CORRESPONDING REFERENCE WETLANDS, FOR THE TRANSECTS IDENTIFIED ON THE DISTRICT APPROVED MAPS AS SET FORTH IN CONDITION 24 AND THE CORRESPONDING VEGETATIVE TRANSECT SURVEYS AS SET FORTH IN CONDITION 27. THE PRE-1996 WITHDRAWALS AUTHORIZED PURSUANT TO CONDITION 12 FOR PILOT TESTING SHALL NOT BE CONSIDERED WITHDRAWALS FROM THE RESERVOIR FOR PURPOSES OF THIS CONDITION.

THE WETLAND VEGETATIVE MONITORING PROGRAM MUST OCCUR A MINIMUM OF THREE TIMES A YEAR (MARCH, JUNE & SEPTEMBER) FOR NON-WOODY VEGETATION AND ONCE A YEAR AT THE END OF THE GROWING SEASON (SEPTEMBER) FOR WOODY VEGETATION. VEGETATIVE MONITORING INFORMATION MUST CONSIST OF THE FOLLOWING INFORMATION, AT A MINIMUM FOR EACH VEGETATIVE STRATUM:

- A. PERCENT TOTAL COVER?
- B. SPECIES COMPOSITION AND DENSITY?
- C. DIAMETER OF CANOPY SPECIES AT BREAST HEIGHT?
- D. PERCENT TOTAL COVERAGE OF GROUND COVER SPECIES? AND
- E. PHOTOGRAPHS TAKEN AT SAMPLING POINTS.

WETLAND VEGETATIVE MONITORING INFORMATION, INCLUDING COPIES OF ALL DATA SHEETS, MUST BE SUBMITTED TO THE DISTRICT AND TO THE FDRR/DRP DISTRICT 6 OFFICE, IN REPORT FORM (2 COPIES) WITHIN 60 DAYS OF SAMPLING EVENTS.

33. UPON INITIATION OF WITHDRAWALS FROM THE RESERVOIR AND CONTINUING FOR THE DURATION OF THE PERMIT, THE PERMITTEE MUST MONITOR FOR CHANGES IN HAND FERN PLANT COMMUNITIES IN ALL TRANSECTS AND REFERENCE TRANSECTS AS IDENTIFIED ON THE DISTRICT APPROVED MAPS AS SET FORTH IN CONDITION 25 AND THE CORRESPONDING TRANSECT SURVEYS AS SET FORTH IN CONDITION 27. THE PRE-1996 WITHDRAWALS AUTHORIZED PURSUANT TO CONDITION 12 FOR PILOT TESTING SHALL NOT BE CONSIDERED WITHDRAWALS FROM THE RESERVOIR FOR PURPOSES OF THIS CONDITION.

THE HAND FERN MONITORING PROGRAM MUST OCCUR A MINIMUM OF THREE TIMES A YEAR (MARCH, JUNE & SEPTEMBER). MONITORING MUST BE CONSISTENT WITH THE APPROVED SAMPLING METHODOLOGY (CONDITION 25) AND PROVIDE THE FOLLOWING INFORMATION, AT A MINIMUM:

- A. PERCENT TOTAL COVER?
- B. RELATIVE COVER PERCENTAGE?
- C. GROWTH MEASUREMENT BY ACCEPTABLE METHODOLOGIES?
- D. SPECIES IMPORTANCE VALUES (I.E., FREQUENCY, DENSITY, BASAL AREA, ETC., USED IN THE CALCULATION OF THE PERCENTAGE COVER AND RELATIVE COVER PERCENTAGE)?
- E. PHOTOGRAPHS TAKEN AT THE SAMPLING POINTS? HAND FERN MONITORING INFORMATION, INCLUDING COPIES OF DATA SHEETS,

MUST BE SUBMITTED TO THE DISTRICT AND TO THE FDNR/DRP DISTRICT 6 OFFICE, IN REPORT FORM (2 COPIES), BY DECEMBER 31 FOR EACH YEAR THAT MONITORING OCCURS.

34. USING THE RESULTS OF THE WETLAND VEGETATIVE AND HAND FERN MONITORING, THE PERMITTEE MUST CONDUCT SIMILARITY ASSESSMENTS COMPARING THE MONITORING RESULTS OF EACH TRANSECT SAMPLED WITH THE FOLLOWING:

A. FLOODPLAIN WETLANDS

- 1) BASELINE MONITORING INFORMATION COMPILED FOR THE SAME WETLAND; AND
- 2) MONITORING RESULTS OF THE CORRESPONDING DOWNSTREAM FLOODPLAIN REFERENCE WETLAND TRANSECTS COLLECTED FOR THE SAME PERIOD.

B. RESERVOIR AND CONTIGUOUS WETLANDS

- 1) BASELINE MONITORING INFORMATION COMPILED FOR THE SAME WETLAND; AND
- 2) THE COLOR INFRARED PHOTOGRAPHY FOR THE CORRESPONDING YEAR, COLLECTED PURSUANT TO CONDITION 29.

C. HAND FERNS

- 1) BASELINE MONITORING INFORMATION COMPILED FOR THE SAME HAND FERN COMMUNITY; AND
- 2) MONITORING RESULTS OF THE CORRESPONDING REFERENCE HAND FERN TRANSECTS COLLECTED FOR THE SAME PERIOD.

THE SIMILARITY ASSESSMENTS (2 COPIES) MUST BE SUBMITTED TO THE DISTRICT, AND TO THE FDNR/DRP DISTRICT 6 OFFICE ONCE A YEAR BY DECEMBER 31. THESE ASSESSMENTS SHALL INCLUDE, IN REPORT FORM, THE DATA COLLECTED PURSUANT TO CONDITIONS 29, 30, 32, AND 33.

35. DISTRICT STAFF WILL REVIEW THE WETLAND VEGETATIVE AND HAND FERN SIMILARITY ASSESSMENTS, VEGETATIVE MONITORING DATA, HYDROLOGIC DATA COLLECTED FROM THE HYDROLOGIC MONITORING PLAN, AND OTHER DATA COLLECTED OR AVAILABLE TO THE DISTRICT, AND COMMENTS SOLICITED FROM THE DEPARTMENT OF NATURAL RESOURCES TO DETERMINE IF THE WITHDRAWALS FROM THE RESERVOIR ARE AFFECTING ADVERSELY ANY WETLANDS OR HAND FERNS DOWNSTREAM OF THE RESERVOIR, OR WETLANDS WITHIN AND CONTIGUOUS WITH THE RESERVOIR.

UPON RECEIVING WRITTEN NOTIFICATION FROM THE DISTRICT THAT WETLANDS OR HAND FERNS ARE BEING ADVERSELY AFFECTED, THE PERMITTEE MUST:

- A. IMMEDIATELY REDUCE WITHDRAWALS AS INDICATED BY THE DISTRICT IN THE NOTIFICATION; AND
- B. SUBMIT A REMEDIATION PLAN, WITHIN 30 DAYS OF NOTIFICATION TO REDUCE WITHDRAWALS TO A VOLUME WHICH WILL NOT ADVERSELY AFFECT THESE WETLANDS OR HAND FERNS, OR PROVIDE FOR OTHER MITIGATION FOR THE ADVERSE IMPACTS. SUBSEQUENT TO DISTRICT APPROVAL OF A REMEDIATION PLAN, ALL WITHDRAWALS FROM THE RESERVOIR SHALL BE IN ACCORDANCE WITH THE APPROVED PLAN.

36. IN THE EVENT THE DEPARTMENT OF NATURAL RESOURCES CONCLUDES THAT THE TOSOHATCHEE RESERVE IS BEING ADVERSELY AFFECTED BY PERMITTEE'S WITHDRAWAL OF WATER FROM TAYLOR CREEK RESERVOIR, THE DEPARTMENT MAY PROVIDE WRITTEN NOTIFICATION, WITH SUPPORTING DOCUMENTATION DESCRIBING THE IMPACT, TO THE PERMITTEE AND THE DISTRICT. WITHIN SIXTY (60) DAYS OF RECEIPT OF THE DEPARTMENT'S NOTIFICATION, THE PERMITTEE SHALL REVIEW THE NOTIFICATION AND PROVIDE A WRITTEN RESPONSE TO THE DEPARTMENT AND THE DISTRICT, INCLUDING A DESCRIPTION OF ANY REMEDIAL ACTIONS PROPOSED BY THE PERMITTEE TO ADDRESS THE DEPARTMENT'S CONCERNS. WITHIN SIXTY (60) DAYS OF RECEIPT OF THE PERMITTEE'S RESPONSE, DISTRICT STAFF SHALL REVIEW THE DEPARTMENT'S NOTIFICATION AND THE PERMITTEE'S RESPONSE AND SHALL PROVIDE A WRITTEN RESPONSE TO THE DEPARTMENT AND THE PERMITTEE DESCRIBING ANY ACTIONS PROPOSED BY THE DISTRICT TO ADDRESS THE DEPARTMENT'S CONCERNS. IF THE DEPARTMENT OBJECTS TO THE DISTRICT STAFF'S RESPONSE BY FORWARDING TO THE DISTRICT AND PERMITTEE A WRITTEN OBJECTION SPECIFYING THE REASON FOR SUCH OBJECTION, THE MATTER SHALL BE PLACED ON THE AGENDA FOR CONSIDERATION OF THE GOVERNING BOARD AT ITS NEXT REGULARLY SCHEDULED REGULATORY MEETING, UNLESS THE DEPARTMENT, DISTRICT STAFF AND PERMITTEE AGREE OTHERWISE.

37A. THE PERMITTEE SHALL SUBMIT A REPORT KNOWN AS THE "MID- TERM REPORT" TO THE DISTRICT BY JANUARY 1, 2001. IN THE MID-TERM REPORT, THE PERMITTEE SHALL SUBMIT ALL INFORMATION NEEDED TO ESTABLISH THAT THE PERMITTED CONSUMPTIVE USE OF TAYLOR CREEK RESERVOIR FOR THE REMAINDER OF THE PERMIT DURATION MEETS THE CRITERIA IN PARAGRAPHS 40C-2.301(4)(D), (E), (F), AND (G), F.A.C., AND SUBPARAGRAPHS 40C-2.301(5)(A)2., 4., 5., AND 6., F.A.C.

- B. WITHIN 30 DAYS AFTER RECEIPT OF THE MID-TERM REPORT, THE DISTRICT SHALL NOTIFY THE PERMITTEE IF THE REPORT IS INCOMPLETE AND REQUEST ADDITIONAL INFORMATION REQUIRED TO MAKE IT COMPLETE. THE PERMITTEE SHALL HAVE 60 DAYS FROM

RECEIPT OF THE REQUEST FOR ADDITIONAL INFORMATION TO SUBMIT THE REQUESTED INFORMATION TO THE DISTRICT. IF THE PERMITTEE REQUIRES MORE THAN 30 DAYS IN WHICH TO COMPLETE THE REPORT, THE PERMITTEE MAY NOTIFY THE DISTRICT IN WRITING OF THE CIRCUMSTANCES AND FOR GOOD CAUSE SHOWN, THE REPORT SHALL BE HELD IN ACTIVE STATUS FOR ONE ADDITIONAL PERIOD OF UP TO 30 DAYS. IN THE EVENT THE DISTRICT FAILS TO REQUEST ADDITIONAL INFORMATION WITHIN THE TIME PERIOD SPECIFIED HEREIN, THE MID-TERM REPORT SHALL BE DEEMED COMPLETE. IF ADDITIONAL INFORMATION IS NOT SUPPLIED BY THE PERMITTEE WITHIN THE REQUIRED TIME PERIOD SPECIFIED HEREIN, THE PERMIT SHALL BE RECOMMENDED FOR REVOCATION AND MAY BE REVOKED AT THE NEXT REGULARLY SCHEDULED BOARD MEETING. REVOCATION OF THE PERMIT FOR LACK OF COMPLETENESS IS WITHOUT PREJUDICE TO THE PERMITTEE'S RIGHT TO FILE ANOTHER CONSUMPTIVE USE PERMIT APPLICATION FOR THE CONSUMPTIVE USE WHICH IS THE SUBJECT OF THIS PERMIT.

- C. THE DISTRICT SHALL PREPARE A STAFF REPORT CONTAINING ITS RECOMMENDATIONS CONCERNING THE PERMIT. THE TECHNICAL STAFF REPORT (TSR) SHALL BE PERSONALLY DELIVERED OR MAILED TO THE PERMITTEE. THE TSR SHALL STATE THE DISTRICT STAFF'S INTENTION TO RECOMMEND TO THE GOVERNING BOARD NO ACTION CONCERNING THE PERMIT, REVOCATION OF THE PERMIT, MODIFICATION OF THE PERMIT OR THE ADDITION OF PERMIT CONDITIONS. THE TSR SHALL CONSTITUTE NOTICE OF INTENDED DISTRICT ACTION. RULES 400-1.511 AND 400-1.521, F.A.C., SHALL APPLY.
- D. THE DISTRICT GOVERNING BOARD SHALL HAVE 90 DAYS FROM THE RECEIPT OF THE COMPLETE MID-TERM REPORT TO REVOKE OR MODIFY THE PERMIT OR ADD NEW PERMIT CONDITIONS. THE DISTRICT'S FAILURE TO TAKE ACTION WITHIN THIS 90 DAY PERIOD SHALL BE DEEMED TO CONSTITUTE ITS FINAL DECISION TO TAKE NO ACTION REGARDING THE PERMIT. THIS 90 DAY PERIOD SHALL BE TOLLED IF AN ADMINISTRATIVE HEARING IS REQUESTED BY A PERSON WHOSE SUBSTANTIAL INTERESTS ARE AFFECTED.
- E. BY ITS ACCEPTANCE OF THIS PERMIT, THE PERMITTEE EXPRESSLY ACCEPTS THE BURDEN OF PROOF WITH RESPECT TO THE DISTRICT'S REVIEW OF THE MID-TERM REPORT PURSUANT TO THE TERMS AND CONDITIONS OF THIS PERMIT. THE PERMITTEE SHALL HAVE THE BURDEN OF PROOF IN ALL PROCEEDINGS RELATING TO THE DISTRICT'S REVIEW OF THE MID-TERM REPORT. IN ANY PROCEEDINGS CONCERNING THIS SUBJECT MATTER THE PERMITTEE SHALL HAVE THE BURDEN OF DEMONSTRATING BY A PREPONDERANCE OF COMPETENT, SUBSTANTIAL EVIDENCE THAT ITS PERMITTED CONSUMPTIVE USE OF TAYLOR CREEK RESERVOIR FOR THE REMAINDER OF THE PERMIT DURATION COMPLIES WITH THE PERMITTING CRITERIA REFERENCED IN CONDITION 37A.

38. THIS PERMIT DOES NOT CONVEY ANY REAL PROPERTY RIGHTS TO THE PERMITTEE. ACQUISITION OF ANY PROPERTY RIGHTS NECESSARY TO IMPLEMENT THE CONSUMPTIVE USE, GRANTED BY THIS PERMIT, IS THE RESPONSIBILITY OF THE PERMITTEE.
39. SOURCE CLASSIFICATION IS LAKE OR OTHER IMPOUNDMENT AND CONFINED OR SEMI-CONFINED AQUIFER.
40. USE CLASSIFICATION IS 39% HOUSEHOLD AND 61% COMMERCIAL/ INDUSTRIAL.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
P. O. BOX 1429
PALATKA, FLORIDA 32178-1429
FORM EN-1

PERMITTEE: COCOA, CITY OF

ADDRESS: 600 SCHOOL ST.

COCOA, FL 32922

NAME OF PERSON TO BE CONTACTED IN REFERENCE
TO PERMIT CONDITIONS FOR PERMITTEE:

NAME

ADDRESS

PHONE NUMBER

POSITION

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

P.O. BOX 1429

PALATKA, FLORIDA 32178-1429

EN-50 FORM

TOTALIZING IN-LINE FLOW METER WATER USE RECORD (MONTHLY)
(INSTRUCTIONS ENCLOSED)

CONSUMPTIVE USE PERMIT#: 2-097-0024NG

PERMITTEE NAME: CITY OF COCOA

DATE OF PERMIT ISSUANCE: 07/13/93 PUMP#: A

PUMP CAPACITY: _____ GPM SERIAL # OF METER: _____

METER MODEL: _____

DISCHARGE PIPE DIAMETER: _____

DATE OF LAST METER CALIBRATION: ___/___/___

* NOTE: A SEPARATE WATER USE RECORD IS REQUIRED FOR EACH WITHDRAWAL
POINT.

MONTHLY SUMMARY OF WATER USE YEAR: _____

MONTH	ACTUAL METER READING	GALLONS USED PER MONTH
JANUARY	_____	_____
FEBRUARY	_____	_____
MARCH	_____	_____
APRIL	_____	_____
MAY	_____	_____
JUNE	_____	_____
JULY	_____	_____
AUGUST	_____	_____
SEPTEMBER	_____	_____
OCTOBER	_____	_____
NOVEMBER	_____	_____
DECEMBER	_____	_____

NAME OF PERSON COMPLETING FORM: _____

(PLEASE PRINT)

ADDRESS: _____

CITY, STATE, ZIP: _____

DAYTIME PHONE: _____

DATE: _____ SIGNATURE: _____

PLEASE RETAIN A COPY FOR YOUR RECORDS

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
P.O. BOX 1429
PALATKA, FLORIDA 32178-1429
FORM EN-51

FLOW METER CALIBRATION RECORD

CONSUMPTIVE USE PERMIT #: 2-097-0024NG

NAME OF PERMITTEE: CITY OF COCOA

DATE OF PERMIT ISSUANCE: 07/13/93 PUMP #: A

PUMP CAPACITY: _____ GPM METER MODEL: _____

SERIAL # OF METER: _____ DISCHARGE PIPE DIAMETER: _____

DATE OF LAST METER CALIBRATION: ___/___/___

DATE OF THIS CALIBRATION: ___/___/___

NAME OF PERSON PERFORMING CALIBRATION: _____

METHOD OR EQUIPMENT USED FOR CALIBRATION:

INITIAL METER READING AT START OF CALIBRATION: _____

FINAL METER READING AT END OF CALIBRATION: _____

READINGS ON EQUIPMENT USED FOR CALIBRATION:

START: _____ END: _____
(ATTACH FORMULAS USED TO MAKE CALCULATIONS)

PERCENT OF ERROR BETWEEN METER READING AND CALIBRATION EQUIP.: _____%

NAME OF PERSON COMPLETING FORM: _____
(PLEASE PRINT)

COMPANY NAME: _____

ADDRESS: _____

CITY, ZIP: _____ DAYTIME PHONE: _____

DATE: ___/___/___ SIGNATURE: _____

PLEASE RETAIN A COPY FOR YOUR RECORDS

Exhibit “D”

SJRWMD

Confirmation Letter

**Recognizing Cocoa’s Sufficient
Supply of Water
for at Least the
Next Twenty-Year Period.**

SJRWMD
Confirmation Letter

- TO BE INSERTED -

Exhibit “E”

Ten-Year Schedule of Capital Improvements

		CAPITAL IMPROVEMENT PLAN - SUMMARY		FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY 2004	FY 2009	FY 2004
	PROJECT#	PROJECTS	DIV.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	FY 2008	FY2013	FY2013
	421 - Water/Sewer Fund															
must B.6	02-63-4028	S. Merritt Island 16" Water Main ('02=1000 ft; '04=1.2mi along SR3 from SR520 to MI Airport; '03=3.2mi; '08=2.3mi along S. Tropical Trl from Georgiana St to Pineda Cswy) [ASCC]	4010	320				750						1,070	0	1,070
* A.3	07-63-4029	Wellfield 42" Pipe (~3mi) [Bond]]	4010				1,300							1,300	0	1,300
must A.1	03-63-4036	S. Mainland 42" Water Main (~24000 ft) [SMWSA ASCC]	4010	3,735										3,735	0	3,735
	06-03-4039	Replace Vehicles-Admin/Eng.	4010			22	23	48	50	0	0	28	29	93	107	200
* B.7	07-63-4062	Fiske Blvd. Improvements [SRF WW Loan]	4010				1,000							1,000	0	1,000
*	04-62-4083	New Utilities Building/Combined Lab [Bond]	4010	160	2,000									2,160	0	2,160
	04-63-xxxx	Raw Water ASR Demonstration Project-Admin. [District=\$1.2m]	4010	1,000	500									1,500	0	1,500
* A.2	05-63-xxxx	Port Canaveral Ground Storage & Pump Stn. [Bond]	4010		250	1,800								2,050	0	2,050
	03-63-xxxx	Geographic Information System (plus P&O costs)	4010	100	100									200	0	200
must B.1	04-63-xxxx	S.R. 5 (US 1) Relocation of W/WW/RW Mains (Barnes to RLJones/RLJones to Cidco Rd.) [Bond]	4010	750		6,500								7,250	0	7,250
must A.X	05-63-xxxx	S.R. 3 (Courtenay Pkwy) from SR520 to SR528 [Bond]	4010		175	1,450								1,625	0	1,625
B.1	04-63-xxxx	U.S.1 Sewer Main Extension (Dixon Blvd. to S.R. 528) [SRF WW Loan, Special Assessment]	4010	150		1,000								1,150	0	1,150
	04-63-4043	Replace Well Pumps, Motors, Equip.-Wewahootee	4015	80	80	80	90	90	90	90	90	90	90	420	450	870
	05-63-xxxx	Replace Packing in 2 Stripping Towers-Wewahootee	4015		225	225								450	0	450
	03-63-xxxx	Replace sluice gates over 2 years (5 per tower)-Wewahootee	4015	20										20	0	20
	04-63-xxxx	Replace PCCP Pipe in Well Field	4015	50									1,500	50	1,500	1,550
	13-64-xxxx	Upgrade Generators + Trf. Switches-Wewahootee	4015										1,000	0	1,000	1,000
	04-03-4048	Replace Vehicles-Dyal	4020	43	60	36	67	75	22	0	130	0	0	281	152	433
	04-64-xxxx	Replace pumps, motors, equipment-Dyal	4020	25	25	25	30	30	30	30	30	30	30	135	150	285
	04-64-xxxx	Replace Equipment Trailer-Dyal	4020	15										15	0	15
	02-64-xxxx	Rehab. High-service Pump Motor + EM Drive	4020	40										40	0	40
	04-63-xxxx	Upgrade Dyal Plant SCADA	4020	200	200	200	200	200	200	200	200	200	200	1,000	1,000	2,000
	07-62-xxxx	Reroof high service pump building	4020				100							100	0	100
	04-62-xxxx	Construct covered walkway (filter catwalk to chemical bldg.)	4020	20										20	0	20
	05-64-4124	Replace Kubota Tractor	4020		15									15	0	15
*	07-63-4902	Expand Surface Water Treatment Capacity [Bond]	4020				650	6,000						6,650	0	6,650
	04-62-xxxx	Climate Control in Ozone Generator Bldg.	4020	65										65	0	65
	04-64-xxxx	Install CL2 Recirculation Pumps/Equipment	4020	100										100	0	100
	04-64-xxxx	Cathodic Protection in Steel Tanks	4020	20	60									80	0	80
must	04-64-xxxx	Implement Emergency Response Plan	4020	1,000										1,000	0	1,000

		CAPITAL IMPROVEMENT PLAN - SUMMARY		FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY 2004	FY 2009	FY 2004
	PROJECT#	PROJECTS	DIV.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	FY 2008	FY2013	FY2013
	421 - Water/Sewer Fund															
	05-64-xxxx	Install Generator at Industrial Park Pump Station	4020		130									130	0	130
	05-64-xxxx	Replace VFD on High Service Pump #4	4020		225									225	0	225
	04-03-4001	Replace Vehicles-T/D	4025	165	235	106	22	184	138	238	27	100	100	712	603	1,315
	05-64-4002	Replace Air Compressor	4025		17									17	0	17
	03-64-4010	Replace 1988 Backhoe	4025	84										84	0	84
	04-63-4018	Replace Galvanized & Cast Iron Mains	4025	80	80	80	80	80	80	80	80	80	80	400	400	800
	04-63-4019	Replace Galvanized Services & Saddles	4025	60	60	60	60	60	60	60	60	60	60	300	300	600
	04-63-4056	New Meters & Services	4025	140	140	140	140	140	140	140	140	140	140	700	700	1,400
	04-63-4057	Cross Connection Control Devices	4025	60	60	60	60	60	60	60	60	60	60	300	300	600
	05-62-4063	Renovate Offices/New Generator	4025		200									200	0	200
	04-63-4067	Old Age Meter Changeout Program	4025	260	250	250	260	280	250	250	250	250	250	1,300	1,250	2,550
	03-03-xxxx	New Dump Truck (1-ton)	4025	40										40	0	40
	04-64-xxxx	Replace Equipment Trailers	4025	20			20			20				40	20	60
	12-64-xxxx	Replace 2002 Backhoe	4025									65		0	65	65
*	04-64-xxxx	Radio-Read Meter System	4025	250	100	100	100	100						650	0	650
	04-64-xxxx	Purchase a Power Mole	4025	25										25	0	25
*	04-63-xxxx	GIS/GPS Record Map Information System	4025	100	250	200								550	0	550
	05-03-4049	Replace Vehicles-Utility Maintenance	4040		24							30		24	30	54
	04-64-xxxx	Install six-ton crane	4040	40										40	0	40
	04-63-4101	Lift Station/Force Main Upgrades	4115	250	250	250	250	250	250	250	250	250	250	1,250	1,250	2,500
* B.2	03-63-4111	U.S.1 Force Main Replacement/New Reclaimed Main (Cidco Rd. to Camp Rd.) [SRF WW Loan]	4115	200	1,900									2,100	0	2,100
	04-63-4114	Refurb/Replace Sewer Mains & Lines	4115	200	200	200	200	200	200	200	200	200	200	1,000	1,000	2,000
*	04-62-xxxx	Solid Waste Transfer Station	4115	50										50	0	50
	04-64-xxxx	Standby Generators for lift stations (2/year)	4115	50	50	50	50	50	50	50	50	50	50	250	250	500
	04-03-xxxx	Replace Vehicles-SC	4115	38	85	140	100	30	100	40	90	40	50	393	320	713
	04-63-xxxx	Plaza Parkway 8" Force Main (material only)	4115	30										30	0	30
	04-63-4110	Reuse Distribution System Expansion	4115	100	100	100	75	75	75	75	75	75	75	450	375	825
*	04-64-xxxx	New Sewer VAC Truck (old one to Stormwater)	4115	200										200	0	200
*	04-64-xxxx	Sewer Inspection "LAMP" Camera	4115	53										53	0	53
	05-64-xxxx	4" Vacuum Well Point Pump	4115		17									17	0	17
	05-64-xxxx	Asphalt Roller with Trailer	4115		17									17	0	17
must	04-62-xxxx	Construct Waste Water Maintenance Building [SRF WW Loan]	4115	555										555	0	555

		CAPITAL IMPROVEMENT PLAN - SUMMARY		FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY 2004	FY 2009	FY 2004
	PROJECT#	PROJECTS	DIV.	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	FY 2008	FY2013	FY2013
	421 - Water/Sewer Fund															
	04-03-4108	Replace Vehicles-Sellers	4120	20	30				22	25				50	47	97
*	05-64-4120	Increase Effluent Filtration [SRF WW Loan]	4120		500									500	0	500
	02-64-4122	Replace Influent Pumps + VFDs	4120	14	14									28	0	28
*	04-63-4130	Repaint Reclaimed Water Elevated Tank	4120	20										20	0	20
	05-63-xxxx	Refurbish Belt Filter Press	4120		20									20	0	20
*	03-63-xxxx	Install Biological Odor Control System [SRF WW Loan]	4120	240										240	0	240
	04-62-xxxx	Repaint seven Plant buildings	4120	20										20	0	20
	04-63-xxxx	Construct/Equip Reclaimed ASR Wells [District participation=\$675,000] Cocoa's cost is \$225,000	4120	225										225	0	225
A.Y	12-63-xxxx	Reuse Ground Storage Tank incl. land acquisition [Bond]	4120									1,500		0	1,500	1,500
	13-63-xxxx	Expand Waste Water Treatment Capacity [Bond]	4120										10,000	0	10,000	10,000
	06-63-xxxx	Upgrade WRF SCADA	4120			15			15			15		15	30	45
	05-64-xxxx	Install Corrosivity Control for Reclaimed Water	4120		30									30	0	30
	04-64-xxxx	Modify Effluent Filter Pump & Controls	4120	30										30	0	30
		Total Water/Sewer Fund		11,512	8,674	13,089	4,877	8,702	1,832	1,808	1,732	3,263	14,164	46,854	22,799	69,653
		<i>Initially funded by SRF WW Loan(s) (Debt Svc. From Revenue)</i>		1,145	2,400	1,000	1,000	0	0	0	0	0	0	5,545	0	5,545
		<i>Initially funded by Bond(s) (Debt Svc. From Revenue)</i>		910	2,425	9,750	1,950	6,000	0	0	0	1,500	10,000	21,035	11,500	32,535
		<i>Initially funded (whole or part) by others</i>		5,055	500	0	0	750	0	0	0	0	0	6,305	0	6,305

Exhibit “F”

Proposed

Comprehensive Plan

Amendments

Draft Ordinance

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF COCOA, BREVARD COUNTY, FLORIDA, RELATING TO COMPREHENSIVE PLANNING; SETTING FORTH AND ADOPTING AMENDMENTS TO THE COMPREHENSIVE PLAN RELATING TO THE INTERGOVERNMENTAL COORDINATION, CAPITAL IMPROVEMENTS, AND PUBLIC FACILITIES ELEMENTS; PROVIDING AN EFFECTIVE DATE AND LEGAL STATUS OF THE PLAN AMENDMENTS; PROVIDING FOR TRANSMITTAL OF THE PLAN AMENDMENT TO THE DEPARTMENT OF COMMUNITY AFFAIRS; PROVIDING FOR THE REPEAL OF PRIOR INCONSISTENT ORDINANCES AND RESOLUTIONS; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Section 163.3161, *Florida Statutes*, establishes the Local Government Comprehensive Planning and Land Development Regulation Act; and

WHEREAS, the 2002 Florida Legislature expanded local government comprehensive plan requirements to strengthen coordination of water supply planning and local land use planning; and

WHEREAS, Section 163.3184, *Florida Statutes*, establishes a process for adoption of comprehensive plans or plan amendments; and

WHEREAS, this Comprehensive Plan amendment is directly related to the Comprehensive Planning and Water Supply Planning in Florida; and

WHEREAS, on June 29, 1957, Chapter 57-1232, the Laws of Florida, authorized the City of Cocoa to extend its water mains and water distribution system beyond its limits and to sell water through said system to private individuals or other uses for profit; and

WHEREAS, the City of Cocoa's water mains and water distribution system extends from the north line of Township 23 to the south line of Township 26 in Brevard County, Florida, and within the corporate limits of other municipalities existing in Brevard County, Florida, with the consent of such municipality; and

WHEREAS, the City of Cocoa City Council recognizes the need and desire for better integration of land use planning, proposed development and water supply; and

WHEREAS, the City of Cocoa Utilities Department actively participated in the St. Johns River Water Management District's 2020 Water Supply Planning Process; and

WHEREAS, in accordance with Section 163.3171, *Florida Statutes*, the City of Cocoa City Council designated by ordinance the City of Cocoa Planning and Zoning Board as the Local Planning Agency for the City of Cocoa; and

WHEREAS, the City of Cocoa Local Planning Agency held a public hearing on various proposed Comprehensive Plan amendments related to the consideration of the District Water Supply Plan (St. Johns River Water Management District, 2000), inclusion of a Water Supply Facilities Work Plan, and the assessment of projected water needs and sources after due public notice on _____, 2003; and

WHEREAS, the City of Cocoa City Council held a public hearing on these Comprehensive Plan amendments after due public notice on _____, 2003; and considered the advice and findings of the Local Planning Agency, and upon thorough and complete consideration and deliberation, approved the proposed Comprehensive Plan amendments for transmittal to the Department of Community Affairs; and

WHEREAS, the City of Cocoa City Council has determined that the Work Plan is based upon the best available data and analysis and that appropriate consideration and intergovernmental coordination has been given to the District Water Supply Plan (St. Johns River Water Management District, 2000); and

WHEREAS, the City of Cocoa City Council has assessed projected water needs and sources for at least a 20-year planning period, and has determined that there is a sufficient supply of potable water in the Cocoa Water Distribution System to meet customer demand for at least a 20-year period; and

WHEREAS, the City of Cocoa transmitted the proposed amendments on _____, 2003, to the Department of Community Affairs pursuant to Section 136.3184 and Rule 9J-11, Florida Administrative Code; and

WHEREAS, the City of Cocoa received from the Florida Department of Community Affairs an "Objections, Recommendations and Comments Report" on _____, 2003, reflecting the Department's review of the proposed amendments; and

WHEREAS, the City of Cocoa Local Planning Agency held a second public hearing after due public notice on _____, 2003; reviewed the written comments submitted by the Department of Community Affairs in the Objections, Recommendations; and Comments Report and reviewed all other written or oral comments submitted by members of the public, other local governments, and reviewing agencies; and

WHEREAS, the City of Cocoa Local Planning Agency recommended these Comprehensive Plan amendments to the City of Cocoa City Council for adoption; and

WHEREAS; the City of Cocoa City Council held a second public hearing after due public notice on _____, 2003 at which it reviewed the written comments submitted by the Department of Community Affairs in the Objections, Recommendations; and Comments

Report; reviewed all other written or oral comments submitted by members of the public, other local governments and reviewing agencies; and reviewed the recommendations of the City of Cocoa Local Planning Agency; and

WHEREAS, the Amendment adopted by this Ordinance complies with the requirements of the Local Government Comprehensive Planning and Land Development Regulation Act.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY OF COUNCIL OF THE CITY OF COCOA, FLORIDA, as follows:

Section 1. **Recitals.** The foregoing recitals are true and correct, and incorporated herein.

Section 2. **Authority.** This Ordinance is adopted in compliance with, and pursuant to, the Local Government Comprehensive Planning and Land Development Regulations Act, Section 163.184 and 163.187, *Florida Statutes*.

Section 3. **Purpose and Intent.** It is hereby declared to be the purpose and intent of this Ordinance to clarify, expand, correct, update, modify and otherwise further the provisions of the 1998-2008 City of Cocoa Comprehensive Plan.

Section 4. **Adoption of Text Amendments.** Pursuant to Comprehensive Plan Amendment PZ-03-017, the 1998-2008 City of Cocoa Comprehensive Plan is hereby amended to include the underlined language and to delete the stricken-through language as indicated for each provision, as set forth in Exhibit "A" attached hereto and incorporated herein by reference.

Section 5. **Transmittal to the Department of Community Affairs.** The City Manager or his designee is hereby designated to sign a letter transmitting this Text Amendment to the Department of Community Affairs, in accordance with Section 163.3187 (1)(c)4, *Florida Statutes*, and Section 9J-11 *Florida Administrative Code*.

Section 6. **Repeal of Prior Inconsistent Ordinances and Resolutions.** All prior adopted ordinances and resolutions or parts or ordinances and resolutions in conflict herewith are hereby repealed to the extent of the conflict.

Section 7. **Severability.** Should any section or provision of this ordinance, or any portion hereof, any paragraph, sentence, or word be declared by a Court of competent jurisdiction to be invalid, such a decision shall not effect the validity of the remainder hereto as a whole or part thereof to be declared invalid.

Section 8. **Effective Date and Legal Status of the Plan Amendments.** The effective date of this amendment shall be the date a final order is issued by the Department of Community Affairs, or the Administration Commission finding the amendment in compliance with Section 163.3184, *Florida Statutes*. After and from the effective date of this amendment, the comprehensive plan amendments stated in Section 4 of this Ordinance shall amend the 1998-2008 Comprehensive Plan and become a part of that plan and the plan amendments shall retain the legal status of the 1998-2008 City of Cocoa Comprehensive Plan, as amended.

ADOPTED by the City Council of the City of Cocoa, Florida, in a regular meeting assembled on the _____ day of _____, 2003.

Judy Parrish, Mayor

ATTEST:

Joan Clark, City Clerk

Transmittal hearing: _____

Adoption hearing: _____

Effective Date: _____

4. PUBLIC FACILITIES ELEMENT

GOAL 4.1

Public facilities shall be provided in a manner that protects investments in existing facilities and promotes orderly, compact urban growth, and discourages urban sprawl.

OBJECTIVE 4.1.1

The City will continue to ensure that at the time a development permit is issued, adequate facility capacity is available or will be available when needed to serve the development.

Policy 4.1.1.1 The following level of service (LOS) standards are hereby adopted, and shall be used as the basis for determining the availability ~~of~~ for development. Whenever appropriate methods for determining available capacity and demand should incorporate peak demand coefficients for each facility and each type of proposed development.

LOS STANDARDS

WASTEWATER	DEVELOPMENT TYPE
Source: Chapter 64E-6.008-10D-6 , Florida Administrative Code; Standards for Onsite Sewage Treatment and Disposal Systems, Revisions Effective <u>September 5, 2000</u> May 14, 1996	Industrial 5000 gallons per day per acre
	Office Space 15 gallons per capita per day
	Residential 300 gallons per day per household
	Schools 15 gallons per capita per day
	Hotel/Motel 100 gallons per day per room
	Restaurant 50 gallons per day per seat
	Bar/Lounge 20 gallons per day per seat

DRAINAGE	DESIGN STORM EVENT Twenty-five year frequency/24-hour duration event
	ON-SITE STORMWATER MANAGEMENT Retention of the first one inch of rainfall runoff for drainage areas of acre or more; or retention of first one-half inch of rainfall runoff for drainage areas of less than one acre.
	STORMWATER QUANTITY Post development runoff flow rates, quantities, peaks, and velocities shall be equal to or less than levels that existed prior to development.
	STORMWATER QUALITY No significant degradation of water quality in receiving water bodies

POTABLE WATER	AVERAGE FLOW 265 <u>gallons</u> per day per ERC (equivalent residential connection)
	PEAK DAILY FLOW 398 <u>gallons</u> per day per ERC
	PEAK FLOW COEFFICIENT 1.5
	PRESSURE Normal: 55-65 psi Peak Hour: <u>45</u> 40-50 psi During Fire: 20 psi
SOLID WASTE	DISPOSAL (BREVARD COUNTY LANDFILL) Cocoa Contribution Rate: 1.2 tons per capita per year
	COLLECTION Residential: 2 times per week, each household Non-Residential: 2 to 6 times per week as needed, each location Green Waste and Recyclable: Once per week

- Policy 4.1.1.2 All improvements for replacement, expansion or increase in capacity of facilities shall be compatible with the adopted LOS standards for the facilities.
- Policy 4.1.1.3 The City Manager's office and the Utilities Department shall jointly develop procedures to update facility demand and capacity information as development orders or permits are issued.
- Policy 4.1.1.4 Prior to new project approvals, evaluation of capacity to meet demand for water and wastewater treatment facilities shall be prepared by the Utilities Department.
- Policy 4.1.1.5 Consistent with the urban growth policies of the Future Land Use element and other applicable elements of this Plan, provision of wastewater, surface water management, potable water, and solid waste services shall be limited to: (1) the service areas for the wastewater and surface water management, (2) contractual agreements with Brevard County for solid waste disposal facilities, and (3) areas where the City has legal commitments to provide facilities and services as of the adoption of this plan.

OBJECTIVE 4.1.2

Provision of public facilities will be coordinated with the Future Land Use element to discourage urban sprawl and maximize the use of existing facilities.

- Policy 4.1.2.1 A Capital Improvements Coordinating Committee shall be created by the City Manager for the purpose of evaluating and ranking capital improvement projects proposed for inclusion in the five-year schedule of capital improvement needs, as approved by City Council.

- Policy 4.1.2.2 The City Manager will prioritize Capital Improvement's according to Objective 4.1.3 and Policy 4.1.3.1.

OBJECTIVE 4.1.3

The City will maintain a five-year schedule of capital improvement needs for public facilities to be updated annually in conformance with the review process for the Capital Improvements element of this Plan.

- Policy 4.1.3.1 Proposed capital improvement projects will be evaluated and ranked according to the priority level guidelines listed at the end of this element. Ranking criteria may be reviewed as needed by the City Manager.

OBJECTIVE 4.1.4

Existing facility deficiencies and replacement needs identified in the Capital Improvements Element will be corrected according to the Capital Improvements Schedule (see Objective 4.1.3).

- Policy 4.1.4.1 Projects of the Capital Improvements Schedule designated as correcting existing deficiencies or replacement needs will be given a Level One Priority.

OBJECTIVE 4.1.5

The extension or increase in the capacity of public facilities to meet future needs, as identified in the Capital Improvements Element, will be coordinated with the Future Land Use element, the five-year Capital Improvements Schedule, and other governmental jurisdictions as appropriate.

- Policy 4.1.5.1 Projects of the five-year Capital Improvements Schedule designated as meeting future needs will be given a Level Two or Three Priority.

CRITERIA FOR PRIORITY RANKING OF CAPITAL IMPROVEMENT PROJECTS

PRIORITY ONE

- The project is needed to protect public health and safety.
- The project fulfills the City's legal commitment to provide facilities and services.
- The project corrects an existing facility deficiency or provides for needed replacement of facility components, in order to preserve or achieve full use of existing facilities.

PRIORITY TWO

- The project increases efficient use of existing facilities.
- The project prevents or reduces future improvement costs.
- The project provides service to developed areas lacking full service.
- The project promotes in-fill development.

PRIORITY THREE

- The project represents a logical extension of facilities
-

POTABLE WATER SUB-ELEMENT

GOAL 4.4

The City will continue to provide potable water service to the citizens of Cocoa, municipalities and unincorporated areas within the franchise area granted by the State, and Federal installations within the franchise area. The City Water Treatment Plant will be operated in compliance with all local, state and federal regulations and standards.

OBJECTIVE 4.4.1

Provision of potable water service shall be consistent with Goal 4.1: Public Facilities in General, and all objectives and policies of Goal 4.1.

OBJECTIVE 4.4.2

The Water Treatment Plant will continue to maintain sufficient design capacity to meet existing and projected flow rates based on annual summaries of capacity and demand information prepared by Utilities Department.

Policy 4.4.2.1 Projected flow rates will be updated annually based on best available data.

Policy 4.4.2.2 Expansion of the design capacity of the Water Treatment Plant will be consistent with the goals, objectives and policies of the Plan and multi-jurisdictional water planning efforts in central Brevard County.

OBJECTIVE 4.4.3

The City will continue to provide potable water to its franchise area which is consistent with Goal 4.1, Public Facilities in General, and all objectives and policies of Goal 4.1.

Policy 4.4.3.1 Potable water contractual agreements will include all necessary legal requirements, rates, service area specifications and relevant information pertinent to the provision of potable water service.

Policy 4.4.3.2 Development within the franchise area will be coordinated with the City specifications and requirements for provision of potable water service.

Policy 4.4.3.3 Expansion of the distribution system will continue to be funded by user fees and connection charges and supplemented with grant funds when appropriate.

Policy 4.4.3.4 By 1999, the installation of a transmission main along the SR 528 causeway from North Courtenay Parkway to SR A1A will be started in order to provide more reliable water supply to customers on the beaches.

OBJECTIVE 4.4.4

Water conservation will be ensured through standards established in the City's Consumptive Use Permit issued by the ~~St. John's River Water Management District~~ SJRWMD. All goals, objectives, and policies of the Conservation Element pertaining to use of potable water shall apply.

Policy 4.4.4.1 The City's land development regulations will include water conservation strategies. Conservation strategies may include, but are not limited to:

1. Installation of water conserving plumbing fixtures in new or renovated building construction that is, at a minimum, consistent with the requirements of the State Water Conservation Act, (Section 553.14, F.S.), and the Brevard County Water Conservation Plan.
2. Water reuse and/or reclamation, for irrigation, industrial use and other appropriate non-potable water use applications.
3. Requesting new development to use natural vegetation and/or drought resistant plants.
4. Continued utilization of escalating block rate water pricing for potable water use.

Policy 4.4.4.2 The City will support water conservation through participation in existing county, state and federal programs, and by establishing its own programs.

OBJECTIVE 4.4.5

The City will maintain a Water Supply Facilities Work Plan for at least a ten- (10) year planning period addressing water supply facilities necessary to serve existing and future development within the City's water service area.

Policy 4.4.5.1 The Water Supply Facilities Work Plan will be consistent with the potable water level-of-service standards established in Policy 4.1.1.1.

Policy 4.4.5.2 The Water Supply Facilities Work Plan will be updated concurrently with updates of the *District Water Supply Plan* (SJRWMD, 2000).

Policy 4.4.5.3 When updating the Water Supply Facilities Work Plan, the City will seek alternative sources of water in order to meet projected demand increases.

Policy 4.4.5.4 The Water Supply Facilities Work Plan will be used to prioritize and coordinate the expansion and upgrade of facilities used to withdraw, transmit, treat, store and distribute potable water to meet future needs.

Policy 4.4.5.5 The City will establish and maintain, at a minimum, a current five-year schedule of capital improvements for the improvement, extension and/or increase in capacity of water facilities.

OBJECTIVE 4.4.6

The City will identify and utilize sources of water that can be used to meet existing and future needs when maintaining and updating the Water Supply Facilities Work Plan.

- Policy 4.4.6.1 In conjunction with the SJRWMD and other local governments, the City will seek the development of efficient, cost-effective, and technically feasible water sources that will supplement future demands, without causing adverse impacts to water quality, wetlands, and aquatic systems. These sources may include, but are not limited to, brackish groundwater, surface water, and seawater.
- Policy 4.4.6.2 The City will maximize the use of existing potable water facilities through the implementation of management techniques that can enhance a source of supply, sustain water resources and related natural systems, and/or optimize water supply yield. These techniques may include, but are not limited to, aquifer storage recovery, reclaimed water, system interconnects, and water conservation.
- Policy 4.4.6.3 City’s annual water consumption will be equal to or less than the amount allocated under the District-issued consumptive use permit or the projected demand in the most recently published *District Water Supply Plan* (SJRWMD).
- Policy 4.4.6.4 The City will participate in the implementation of the East Central Florida Water Supply Planning Initiative, updates of the SJRWMD’s water supply assessments, and updates of the *District Water Supply Plan* (2000), to enable the City to design and implement an effective water supply plan.

6. CONSERVATION

[The background document of the Conservation Element will be revised to reflect the projected water demands and sources identified in the Water Supply Facilities Work Plan.]

8. INTERGOVERNMENTAL COORDINATION ELEMENT

GOAL 8

The City will maintain an ongoing commitment to Intergovernmental Coordination to ensure that the growth management goals of the Comprehensive Plan will be effectively implemented.

OBJECTIVE 8.1

The City will continue to review and coordinate with the comprehensive plans of other local governments and districts. To include at least the following:

- 1) Brevard County Comprehensive Plan;
- 2) City of Rockledge Comprehensive Plan;
- 3) State agencies and Central Brevard County jurisdictions as appropriate; and
- 4) School Board of Brevard County District Plan.

Policy 8.1.1 The City will exchange intergovernmental information and services with appropriate local governments through scheduled meetings and as requested.

Policy 8.1.2 Land development regulations will include guidelines for responding to annexation opportunities and ongoing intergovernmental coordination with Brevard County's Planning and Development Department for resolution of annexation issues.

Policy 8.1.3 In the event of a conflict with the Comprehensive Plan of another local government which cannot be successfully resolved within a reasonable period of time, the City will appeal to the East Central Florida Regional Planning Council's informal mediation process. Wherever possible, the appeal will be submitted as a joint request by the local governments.

OBJECTIVE 8.2

Proposed development will be evaluated by the City staff for its impact on adjacent local governments or regions. Where a potential impact exists, the City will solicit comments from the appropriate unit(s) of government before issuance of a development order.

Policy 8.2.1 The City staff will evaluate development projects in Cocoa to include an assessment of impacts on the Comprehensive Plans of adjacent jurisdictions.

Policy 8.2.2 The City staff will assess development proposed in this Comprehensive Plan, including the Future Land Use Element and the Capital Improvements Element, for impact on the comprehensive plans of adjacent jurisdictions.

OBJECTIVE 8.3

By 1989, LOS standards that are consistent with the Plan will be included in any interlocal agreement or private service provider agreement.

DRAFT ORDINANCE EXHIBIT “A”

- Policy 8.3.1 The City will continue to contract with a private service provider for solid waste collection service and disposal at the Brevard County landfill.

OBJECTIVE 8.4

The City will continue to function as the primary provider for potable water service in Central Brevard County.

- Policy 8.4.1 Development within the franchise area will be coordinated with the City's specifications and requirements for provision of potable water service.

- Policy 8.4.2 The City will review and coordinate with the most recently published District Water Supply Plan (2000) and SJRWMD staff in projecting future supply and demand of potable water and alternative sources and preparing amendments to the Water Facilities Work Plan and Consumptive Use Permit process.

- Policy 8.4.3 The City will exchange water supply information and services with the SJRWMD, East Central Florida Regional Planning Council, and local governments through water supply planning work groups and through meetings on an as-needed basis.

- Policy 8.4.4 The City will participate in the implementation of the East Central Florida Water Supply Planning Initiative, updates of the SJRWMD's water supply assessments, and updates of the District Water Supply Plan (2000), to enable the City to design and implement an effective water supply plan.

OBJECTIVE 8.5

The City will continue to establish new intergovernmental relationships while strengthening existing ties in the areas of natural resource management and protection.

- Policy 8.5.1 The City will seek and undertake the establishment of enhanced intergovernmental relationships as identified in Objective 4.3.4 and associated policies, Policies 4.3.2.9, 4.3.3.5, 4.3.4.4 and other applicable objectives and policies.
- Policy 8.5.2 The City shall coordinate with District 4 Parks and Recreation in an effort to construct a regional/community park in the northwest portion of the City.
- Policy 8.5.3 The City should coordinate with the Brevard County School Board to document problems in the educational system and implement corrective actions.
- Policy 8.5.4 The City shall coordinate with FDOT and Brevard County to develop a plan to modernize Cocoa's roads.

OBJECTIVE 8.6

The eCity shall map the known locations of future public facilities and services and provide for those public facilities and services consistent with the Capital Improvements Element and the policies and criteria of the City’s Comprehensive Plan.

- Policy 8.6.1 The City shall require the dedication of adequate lands for community facilities or purchase such lands through the use of bonds, special assessments, ad valorem revenue or through impact fees and other development generated revenue.
- Policy 8.6.2 The City shall develop an interlocal agreement with the School Board of Brevard County for locating future school sites during the development approval process.
- Policy 8.6.3 The City shall, through its Land Development Regulations, accommodate public schools, through a public hearing process, based on their neighborhood function and ability to provide for efficient public facilities and services without regard to zoning classification.
- Policy 8.6.4 Public facilities and utilities shall be located to:
1. Provide the most efficient service for the public facility or utility through providing a correct location and size facility;
 2. Reduce costs to the minimum for the Level of Service provided;
 3. Eliminate or mitigate their impacts on the natural environment; and
 4. Provide the designated level of service.

9. CAPITAL IMPROVEMENTS ELEMENT

[Attachment IX from the background document of the Capital Improvements Element will be amended to update the Five-Year Schedule of Capital Improvements. It will include, at a minimum, the first five years of the Water Supply Facilities Work Plan.]

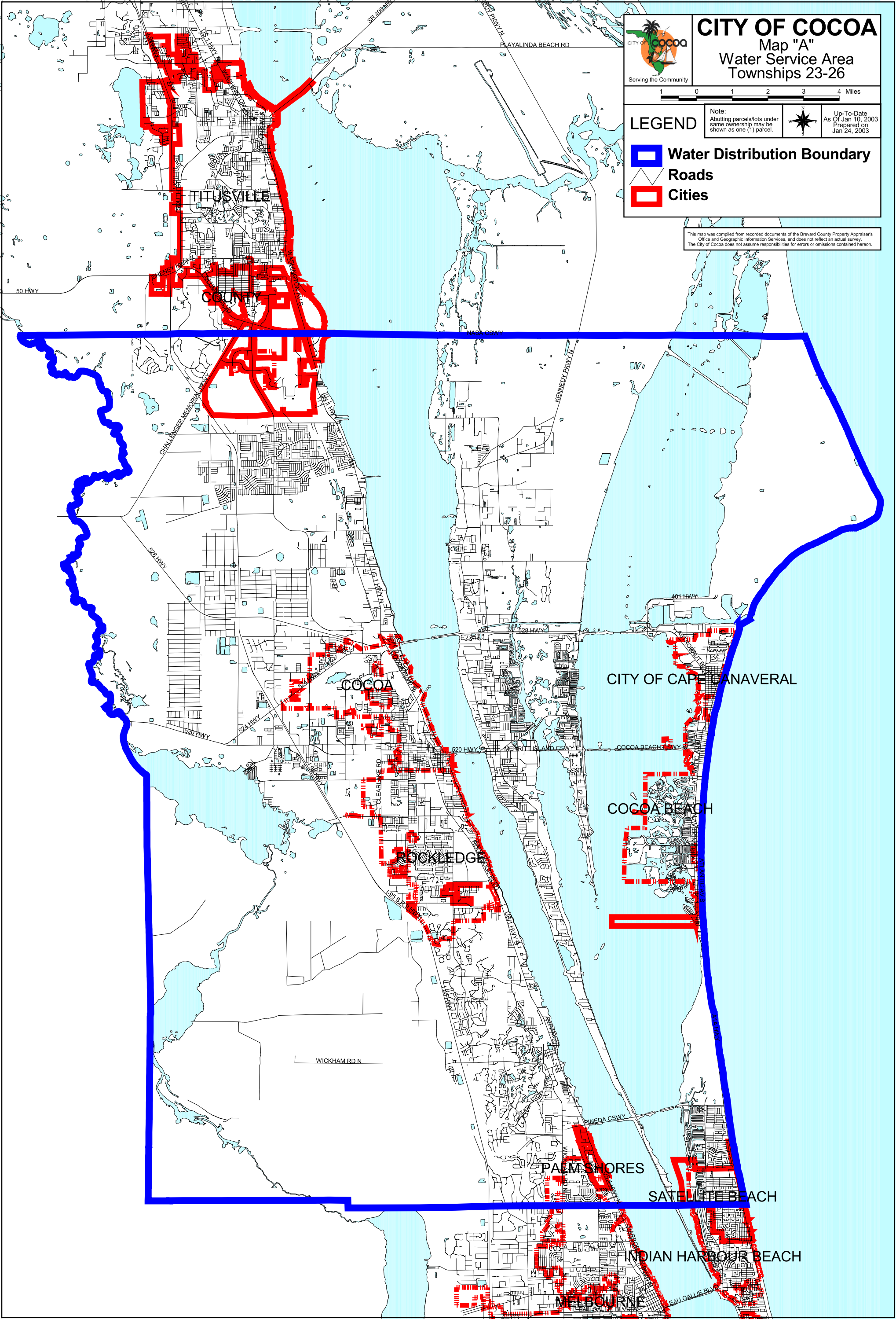
Map “A”

City of Cocoa

Water Service Area

Townships 23 thru 26

in Brevard County



CITY OF COCOA

Map "A"

Water Service Area

Townships 23-26

1 0 1 2 3 4 Miles

LEGEND

- Water Distribution Boundary
- Roads
- Cities

Note:
Abutting parcels/lots under
same ownership may be
shown as one (1) parcel.



Up-To-Date
As Of Jan 10, 2003
Prepared on
Jan 24, 2003

This map was compiled from recorded documents of the Brevard County Property Appraiser's Office and Geographic Information Services, and does not reflect an actual survey. The City of Cocoa does not assume responsibilities for errors or omissions contained hereon.

Map “B”

**Water Collection
and
Treatment Facilities**



CITY OF COCOA

Map "B" Water Collection and Treatment Facilities

0.5 0 0.5 1 1.5 2 Miles

LEGEND

Note:
Abutting parcels/lots under
same ownership may be
shown as one (1) parcel.

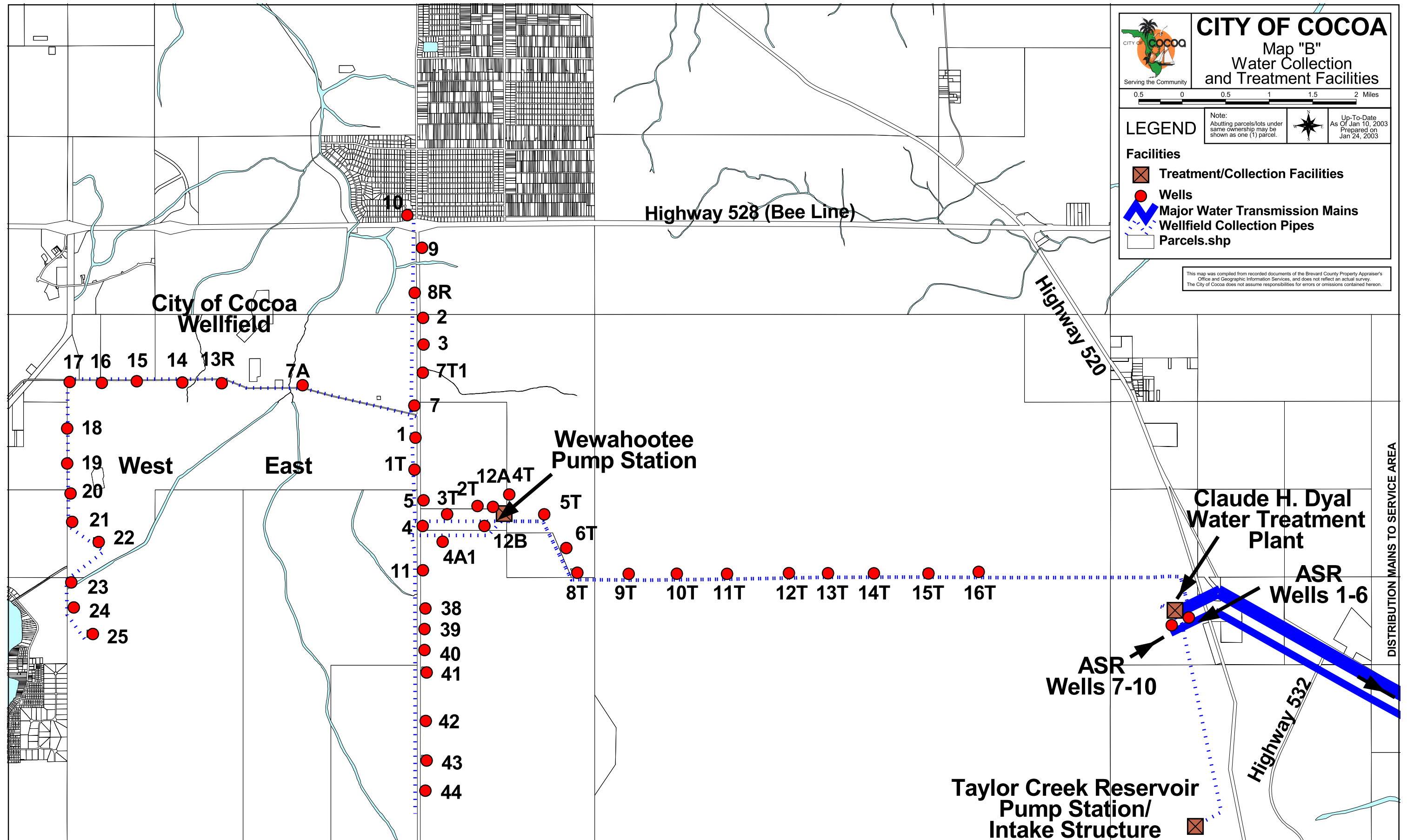


Up-To-Date
As Of Jan 10, 2003
Prepared on
Jan 24, 2003

Facilities

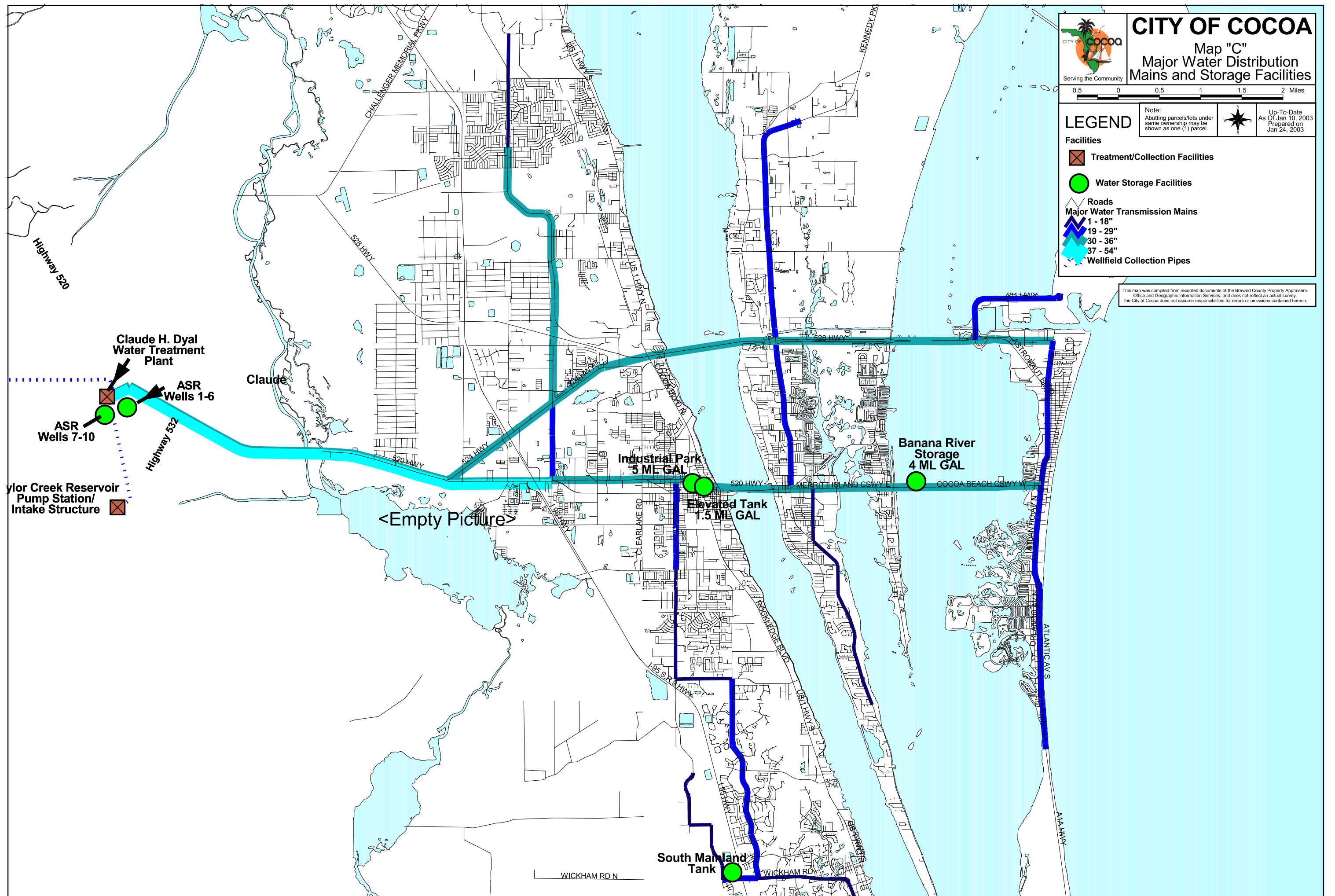
- Treatment/Collection Facilities
- Wells
- Major Water Transmission Mains
- Wellfield Collection Pipes
- Parcels.shp

This map was compiled from recorded documents of the Brevard County Property Appraiser's Office and Geographic Information Services, and does not reflect an actual survey. The City of Cocoa does not assume responsibilities for errors or omissions contained herein.



Map “C”

**Major Water
Distribution Mains
and
Storage Facilities**



Map “D”

Reclaimed Water Distribution System

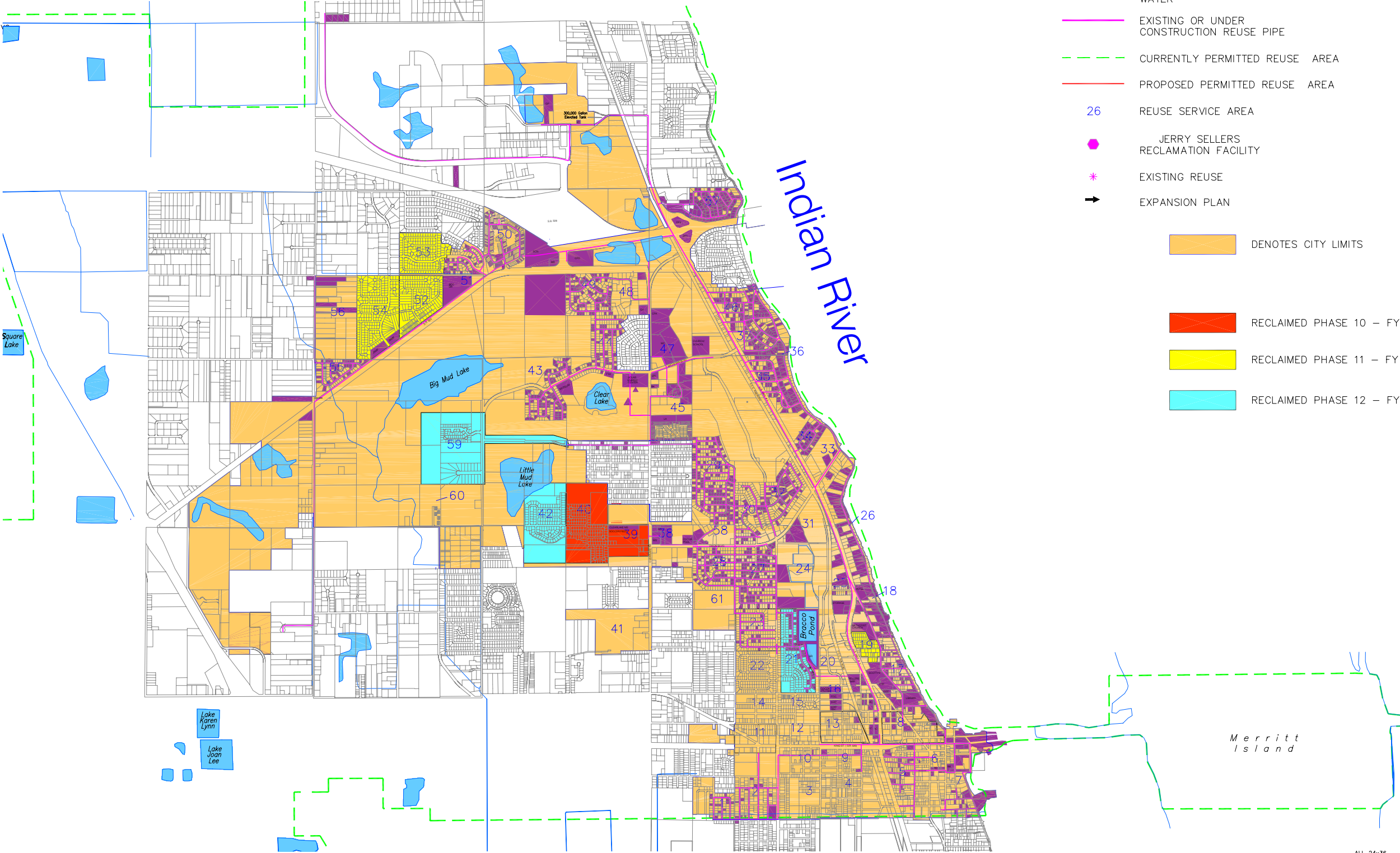
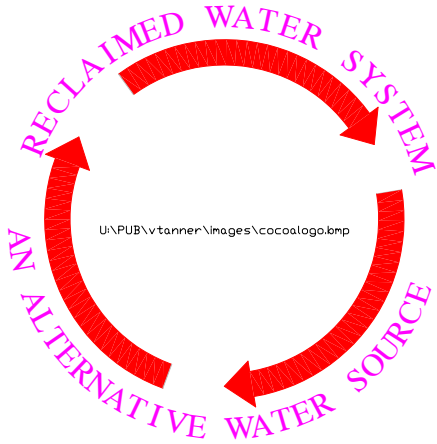
CITY OF COCOA
RECLAIMED WATER
DISTRIBUTION SYSTEM
AND FUTURE EXPANSION PLAN
(FY 02 - FY 04)

LEGEND

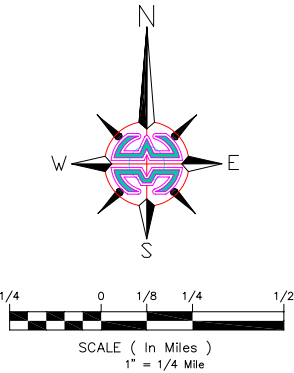
- ROADWAY
- WETLANDS
- WATER
- EXISTING OR UNDER CONSTRUCTION REUSE PIPE
- CURRENTLY PERMITTED REUSE AREA
- PROPOSED PERMITTED REUSE AREA
- REUSE SERVICE AREA
- JERRY SELLERS RECLAMATION FACILITY
- EXISTING REUSE
- EXPANSION PLAN

- DENOTES CITY LIMITS
- RECLAIMED PHASE 10 - FY 03
- RECLAIMED PHASE 11 - FY 03
- RECLAIMED PHASE 12 - FY 04

- | SERVICE AREA (S.A.) | DESCRIPTION |
|---------------------|---|
| 1 | Pine Grove |
| 2 | Virginia Park |
| 3 | Monroe Center |
| 4 | Rosa L. Jones Dr.-Blake Ave. to RR |
| 5 | S. of S.R. 520-U.S. 1 to Hughlett Ave. |
| 6 | S. of S.R. 520-Hughlett Ave. to Brevard Ave. |
| 7 | Downtown Cocoa ex. S.A. # 5 & 6 |
| 8 | Forrest Ave. & Vicinity-N. of S.R. 520 |
| 9 | College Park-East of Blake Ave. |
| 10 | College Park-West of Blake Ave. |
| 11 | S.R. 520 N. & S., W. of Fiske Blvd. |
| 12 | E. of Fiske Blvd., N. S.R. 520 |
| 13 | N. Wilson |
| 14 | Cocoa Annex |
| 15 | Sara Lou |
| 16 | City Compound |
| 17 | Indian River Dr.(I.R.D.), N. of S.R. 520 |
| 18 | I.R.D. from 861 I.R.D. to S.A. # 17 |
| 19 | Grimes St., Hillcrest Dr., W. of Forrest Ave. |
| 20 | Shearer Blvd. Industrial Park |
| 21 | Royal Garden Homes |
| 22 | Broadmoor Acres |
| 23 | Cocoa Modern Manor |
| 24 | 800 N.Fiske Condos |
| 25 | Cocoa Place |
| 26 | I.R.D. from 871 I.R.D. to Dixon Blvd. |
| 27 | Pineridge Subd., Unit 1 |
| 28 | Pineridge Subd., Unit 2 |
| 29 | Pineridge Subd., Unit 3 & 4 |
| 30 | Cocoa Hills W. of Fiske Blvd. |
| 31 | Byrd Plaza |
| 32 | Cocoa Hills E. of Fiske Blvd. |
| 33 | Dixon E. of US 1 |
| 34 | Indian Circle |
| 35 | Broadview Manor Subd. |
| 36 | River Road North |
| 37 | Carleton Terrace Subd., South |
| 38 | Cocoa Pres., Clearlake Plaza |
| 39 | Dixon Blvd. W.-Hawthorne Apt. |
| 40 | College Manor Unit 1 |
| 41 | Sunrise Village |
| 42 | College Manor Units 2 & 3 |
| 43 | College Green Units 3 & 4 |
| 44 | College Green Units 1 & 2 |
| 45 | University |
| 46 | Carleton Terrace Subd., North |
| 47 | Woodland Com., Clearlake Pines |
| 48 | Courtyards, Quail Ridge |
| 49 | College Green Units 5 & 6 |
| 50 | Coventry of Cocoa |
| 51 | Cocoa North Unit 1 |
| 52 | Cocoa North Units 5 & 6 |
| 53 | Cocoa North Units 3 & 4 |
| 54 | Cocoa North Units 7 & 8 |
| 55 | Cocoa Pines |
| 56 | Cox Rd. |
| 57 | High Point Subd. |
| 58 | Dixon Blvd. between S.A. 30 & 38 |
| 59 | Cocoa Bay, Forest Ridge |
| 60 | Gary Hunt Rd. |
| 61 | A,B,C Street & Pineda Elementary |



REVISED 2/13/03
X:\RECORDMAPS\REUSEMAPS\
REUSESYSV1.3.DWG



Through Customer
#1397 Online 11/20/02

Map “E”

Water Service Area

Existing and
20-Year Projection

